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HEALTH NOTES

FOR

YOUNG WIVES

BY

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PREFACE.

THERE is no doubt that, even under the most favorable conditions, the months of pregnancy represent a time of physical and mental trial to the young mother. Be the anticipations of parenthood never so joyful, the child never so ardently longed for, the preparations for its advent made with a tender pleasure hitherto unknown, the mind filled with plans for its future care and education, mingled in the more serious-minded with feelings of almost awful responsibility in the ushering into life of a human soul, still there must of necessity be often present the thought of the coming ordeal, the time of danger and of pain. Moreover, physical disturbances of a more or less severe nature frequently accompany or complicate the condition. Some of these are in certain cases unavoidable; others could be avoided by a little

knowledge and care. A good physician should be the chief source of information, inasmuch as each case differs from another in many particulars, according to the peculiarities of the individual, so that it is difficult to lay down general rules to meet every emergency. Busy practitioners do not always remember to give information upon minor points, unless specially consulted upon them; the timidity natural to most women, or a total ignorance of the body and its laws and needs, causing them to accept all symptoms as a matter of course, prevent their asking the necessary questions, and thus oftentimes they suffer quite needlessly from the lack of a little simple instruction. Moreover, not all women are so situated that they can call upon their physician for help in every dilemma. To these young wives in especial it is hoped that the following pages may be of use.

The author wishes to acknowledge her indebtedness for valuable facts to the works of Drs. Lusk, Parvin, Bulkley, Shoemaker, Winckel, Mundé, Lloyd, Gar-

rigues, Winckel, Penrose, Clara Shaw, and George Allan, D.D.S.

The tables of infant feeding are quoted from Dr. T. M. Rotch, and the dietary for children after weaning from Dr. Samuel Adams.

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CHAPTER I.

INTRODUCTORY REMARKS—STRUCTURE OF THE ORGANS OF GENERATION— DEVELOPMENT OF THE CHILD.

IT may not be the manifest destiny of every woman to become a wife and a mother. It is, however, a possibility to all. That being the case, it is a matter to astound the thoughtful that so little preparation for their probable experiences, needs, and duties is deemed necessary. Many readers will remember Mrs. Diaz's story of the philosopher from a distant planet who comes to this earth and whose notice is attracted to the little children. Upon inquiry he finds that they are the future men and women of the country; that dangers of all kinds surround them— inherent evil tendencies may readily develop into crimes threatening not only their own but the country's welfare; differences of temperament call for the

utmost skill, discernment, wisdom, and knowledge in their education, and it is granted that no occupation can excel this in its scope, power, and influence. Upon further inquiry he finds that the “operators upon these delicate and complex pieces of mental machinery” are the mothers, and, with a delightful naïveté, he takes it for granted that such all-important personages in the nation as the mothers must be the recipients of an education most comprehensive and judicious, as well as one especially directed to the vocation which is conceded to be peculiarly theirs —an education which will teach them to understand the various temperaments of their children and their needs, to direct the culture of their intellectual and moral nature, and to apply hygienic laws in their physical training. When he discovers that although the training of children is universally held to be a woman’s chief business, yet the young women receive no special education fitting them for it, that husbands rarely think of providing their wives with literature designed

to give them the necessary information, the philosopher indulges in the following soliloquy: "There seems to be blindness and stupidity somewhere among these people. From what they say of the difficulty of bringing up their children, it must take an archangel to do it rightly; still they do not think a woman who is married and settles down to family life needs much education. Moreover, in educating young women, that which is universally acknowledged to be the chief business of their lives receives not the least attention" !!

Leaving aside ethical considerations, and looking at the matter merely from the point of view of physical self-preservation, is it not strange indeed that the body, the one thing which is ever present with us from birth until death, to which we are chained in a life sentence, as it were, and whose welfare concerns us more intimately than any other thing in the world, is precisely that which arouses the least interest? All the "ologies" seem to take precedence over physiology; yet a study

more fascinating in itself and more personally interesting could not easily be imagined. However, it is not our place to write a treatise on physiology. A few words upon the structure of the organs special to women may, however, be of use to the wife and expectant mother, and are necessary to the understanding of what happens in pregnancy.

That portion of the body known as the trunk is divided into two parts, the thorax, or chest, and the abdomen.

THE THORAX reaches from the neck to the lower extremity of the breast bone in front, and to the last rib on each side. It contains the lungs, heart, and great blood vessels. The ABDOMEN is divided into the upper part, or abdomen proper, and the lower, or pelvis. The former extends from the chest, from which it is separated by a muscular partition called the diaphragm, to a point a trifle below the upper border of the hip bone. It contains the stomach, the greater part of the bowels or intestines, the liver, spleen, pancreas, and kidneys. Just below the abdo-

men proper, and artificially divided from it to facilitate description, is the pelvis, or pelvic cavity, which contains a small part of the intestines, the bladder, and the organs of generation. In the centre is the

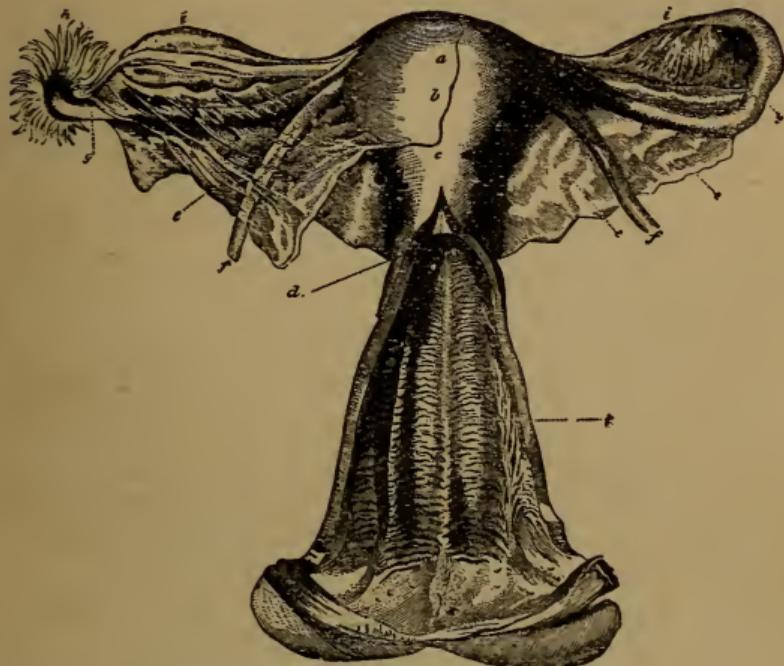


FIG. 1.—UTERUS AND APPENDAGES.

a, b, c, uterus; d, neck of uterus; f, f, ligaments holding up uterus; g, g, Fallopian tubes; h, fimbriated end of tube, opened to show its form; i, i, ovaries; k, vagina, opened to show neck of uterus.

uterus, or womb, which is, in those who have never borne children, a pear-shaped body, about two and a half inches long,

one and a half broad at the upper part, half an inch in the lower, and is one inch thick. It is composed of muscle, with a lining of mucous membrane, and is hollow. From each side of it projects a tube from three to four inches long, its cavity continuous with that of the uterus, but only one-twenty-fifth of an inch in diameter at the opening. The Fallopian tube, as it is called, increases in size toward the outer end, where it is large enough to admit a goose quill. It does not extend in a straight line, but curves slightly upward and then downward ; its ends are fringe-like in shape, and one of these fringe-like points is attached to an oval, solid mass, about an inch and a half long, known as the ovary. This is fastened, by means of a little cord or ligament about an inch long, to the uterus. These five bodies—uterus, tubes, and ovaries—constitute the organs of generation. The lower part, or *neck*, of the uterus projects into a canal from two and a half to three inches long, called the *vagina*. Although a canal, its walls lie

close together. The external organs of generation are called collectively the vulva.

THE OVARIES contain a large number of tiny egg cells or follicles ; there are about thirty-six thousand in each one. During childhood they are not perfectly developed, but at the age of puberty (which varies from about the tenth year in hot countries, such as India, to the eighteenth or twentieth in cold countries, such as Norway, and in our own country is at the thirteenth or fourteenth year) these cells mature, and about every fourth week one bursts open upon the surface of the ovary, discharging an ovum, or egg, which is about one-one-hundred-and-twentieth of an inch in diameter. The ovum, in some way not yet perfectly understood, is carried into the Fallopian tube through the finger-like ends, and travels by way of the tube into the uterus, from which it is discharged into the vagina. A flow of blood usually accompanies its discharge, and is known as menstruation, or monthly sickness.

The process described is that occurring to the unfertilized ovum. When, how-

ever, conception has taken place, a very different series of events occur. Instead of being discharged through the vagina, the ovum fastens itself to the uterine wall. Both the ovum and the lining of the uterus undergo great changes: membranes are thrown around the little egg, until it is enclosed in a small bag; the child develops within this pouch, which becomes filled with fluid and is known as the "bag of waters." Meanwhile, about the end of the third month of pregnancy, the PLACENTA or after-birth is formed upon and from the lining of the uterus. It is a soft mass, consisting chiefly of blood vessels, which are separated from the blood vessels of the embryo, or foetus, or young child, by only a thin membrane, through which a constant interchange takes place of waste matters from the blood of the child, and nourishment from the blood of the mother. The infant, or, more properly speaking, the foetus, is connected with the placenta by means of the umbilicus, umbilical cord, or navel string.

As the child increases in size the uterus

also grows until it reaches to about an inch below the lower end of the breast bone. Of course it pushes upon the organs of the abdomen, displacing them more or less, so that it is not at all wonderful that many uncomfortable sensations are produced merely by the development of the child. At the end of the months of pregnancy "term" is reached, and "labor," which means contraction of the muscular walls of the uterus, expels the infant. The uterus then begins to diminish in size, and in a few weeks has returned almost to its original dimension, which is, however, never entirely regained. It may interest the young mother to know the stage of development of the child at different periods in the pregnancy.

During the FIRST MONTH it has no definite form, and is about one-twelfth of an inch in length.

At the commencement of the SECOND MONTH it is about half an inch in length and weighs about sixty grains. The head may be just distinguished. Toward the end of the second month the body is from

10 DEVELOPMENT OF THE CHILD.

one to one and a half inches long. The head and extremities are visible.

THIRD MONTH.—The body grows to the length of three, or even three and a half, inches. Fingers and toes are formed. The head is large compared with the body. Nose, ears, anus (entrance to bowels), and mouth are formed—the two last-named being closed. Eyelids joined together; a membrane covers the pupils.

FOURTH MONTH.—Length of body, five and a half to six inches. Weight, three to six ounces. The sex is distinguishable. The mouth and anus are open. The nails begin to appear.

FIFTH MONTH.—Body grows from five and a half to nine or ten inches by the end of the month. Weight increases to ten ounces. The head is one-third the length of the whole foetus. Hair and nails visible. Downy hair appears over the surface of the whole body.

SIXTH MONTH.—Length, eleven to twelve inches. Weight, one pound. Hair and eyelashes distinct. The pupils are still

covered by the little membrane, and the eyelids adhere together.

SEVENTH MONTH.—Length, about fourteen inches. Weight, three to four pounds. The eyelids open, and the membrane over the pupil begins to disappear. The nails are formed, and an oily matter covers the skin.

EIGHTH MONTH.—Length, about sixteen inches. Weight, four or five pounds. The membrane over the pupil disappears. The nails reach to the ends of the fingers. The downy hair begins to disappear from the face.

NINTH MONTH.—Length, eighteen to twenty inches. The weight varies, the average being about seven pounds. A few cases are on record of children weighing fifteen and sixteen pounds, but they were usually still-born.

CHAPTER II.

SYMPTOMS OF PREGNANCY—PRENATAL INFLUENCES—CHOICE OF PHYSICIAN AND NURSE.

THE young wife is frequently at a loss to determine whether she be really pregnant.

The SYMPTOMS OF PREGNANCY are divided into two classes: those in the first can be decided upon by the mother herself; those in the second, by the physician. Yet it must be remembered that no one sign is absolutely positive, and that a group of such symptoms must be present before it can be definitely announced that she is with child.

ABSENCE OF THE MONTHLY SICKNESS is the first thing usually noticed, and under ordinary conditions this is accepted as proof, especially if it have been absent for two successive periods. It must, however, be borne in mind that a low physical condition, poverty of the blood, cold, fatigue,

and even fright or excitement of any kind, will, in some persons, cause a non-appearance of menstruation. In a few cases, on the other hand, the condition of pregnancy has not been suspected because the monthly flow has continued to appear two or three times, or even, though rarely, throughout pregnancy. Frequently a white discharge occurs at the usual time for the flow, or even at other times; but it need cause no alarm, as it is merely a result of the congested state of the uterus.

MORNING SICKNESS is a second sign. This is often entirely absent, and it may be caused in the non-pregnant by dyspepsia; still, in connection with absence of the monthly sickness, it is a valuable indication. It occurs after the first two or three weeks, is most marked in the second month, and usually ceases at the end of the third month.

CHANGES in the BREAST constitute the third sign. A slight feeling of fulness, a little tingling sensation, or sensitiveness to pressure, or pain, is sometimes experienced. At any time from the end of the

first month to the end of the fourth certain changes in color occur: the skin of the nipple, which becomes more prominent, is darkened, and the pink ring around it becomes brown in hue. Slight grain-like elevations also appear on this ring. These changes are not an invariable rule, and they are of value in determining a first pregnancy only, as the coloration and granulation are usually permanent.

AN INCREASE in the SIZE of the ABDOMEN is the fourth sign, but as it may come from fat, from gas in the bowels, from tumors, or even from hysteria, it is not an absolute guide. During the first eight weeks, indeed, the abdomen becomes flatter, because the increased weight in the uterus tends to drag it downward. As the child develops, however, it rises higher and higher. At the end of the twelfth week it may be felt just above the bone in front, known as the pubic bone; at the end of the sixth month it is about on a level with the navel; and at the end of the thirty-eighth week it reaches to almost the end of the

breast bone, sinking a little during the two weeks before labor.

QUICKENING, known as "feeling life," is the fifth sign, felt about the eighteenth or twentieth week. This is due to the movements of the child, and is at first a slight, tremulous feeling rather than a definite motion, becoming more pronounced as the child increases in size and strength. The movements may be so few and so inconsiderable as scarcely to be felt throughout pregnancy, or so active as to cause considerable pain. In some cases they suddenly cease altogether for weeks, or even for the remainder of pregnancy, causing the mother to fear that the child has died. Death of the foetus sometimes occurs, to be sure, but rarely, and mere cessation of the movements need not cause alarm. On the other hand, women of a nervous temperament, and those very desirous of having children, have sometimes mistaken muscular movements for quickening. As a rule, however, the symptom is readily recognized.

By careful examination of the abdomen

in the early months, and of the uterus through the vagina, the physician is able to perceive certain signs more indicative of pregnancy than are the sensations experienced by the mother. A purple tinting of the parts, changes in the neck and body of the uterus, perception of various parts of the child's body, and, most important of all, the sound of the child's heart, are some of these signs. The latter is heard by pressing the ear to the abdomen. The foetal heart beats more rapidly than that of the mother, and is an infallible sign of pregnancy, but rarely perceptible before the eighteenth week. Sometimes two hearts are distinctly heard, and the physician is able to detect the presence of twins.

The young mother is always anxious to know how to determine the exact date of her confinement. This is a very nearly impossible thing, as there exists a certain amount of irregularity, varying with individuals, and as it is rarely possible to know the exact date of conception. One authority states that a child may be born

within two hundred and forty to three hundred and twenty days of the last menstrual period. The average duration of pregnancy is two hundred and eighty days—forty weeks, or ten *lunar* months—and the usual method of calculation is to count backward three months from the date of the beginning of the last menstruation, and then add seven days (in leap years, after February, six days). No physician should be blamed for refusing to fix the exact date of confinement. Neither should he be expected to foretell the birth of twins, for this is oftentimes absolutely impossible of prediction. Parents are usually anxious to know the sex of the child before birth, and some even hope to influence the production of the desired sex. Even physicians have attempted to solve the problem, books and articles have been written upon the subject, various startling and original theories have been announced. It may be definitely asserted, however, that as yet science has thrown no light upon the subject, and parents must still be content to

wait until the birth of the child decides the question.

Another and more important subject often occupies the attention of the young mother. Can she, of her own will, influence the health, character, temperament, mind, and appearance of the child whom she is bearing ? Widely do the opinions of physicians vary upon this point. Some assert that certain sights, emotions, thoughts, and desires have a pronounced effect upon the unborn babe ; that deformities or objects which have made a profound impression upon the mother are reproduced upon the child ; that by persistent gazing at pictures of beautiful persons the child may be endowed with similar beauty ; that scientific, literary, artistic, musical, or kindred tastes may be created by a firm determination on the part of the mother that they shall exist ; and, in fact, that within certain limits almost any trend may be given to the character of the offspring. Many are the anecdotes related by women to illustrate this point ; while they cannot all be re-

ceived without the proverbial grain of salt, it will not do to dismiss them as altogether unworthy of attention. A sufficiently large number of well-authenticated facts following presumed causes are always to be treated with respect, but one must be sure that they *are* authenticated, and that imagination, exaggeration, or mere hearsay does not play too large a rôle. Some men of science believe absolutely in this prenatal influence ; others of equal standing deny it altogether, and claim that the majority of the accounts are untrustworthy, the remainder mere coincidences, and that nothing as yet known of physiological laws warrants the belief that the mother can by any volition influence the child, nor that any emotional impression can in any way alter its development. If, however, it please the young mother to believe that she can mould her child's character in these months of waiting, there can be not the slightest objection to her so doing. Since there is a doubt upon the subject, by all means let the child have the benefit of the doubt. Let the

mother fill her mind with lofty, beautiful, and pleasing thoughts, read the best books, study masterpieces of art, listen to the noblest music, associate chiefly with those of her friends whose hearts and minds are best and truest, think only lovingly, hopefully, and with the highest aspirations of and for the coming life for whose being and well-being she is responsible. By so doing her own nature will be uplifted and her character strengthened, and she will be better fitted to influence and guide the child after birth—and perhaps before. Her mind, moreover, will be more diverted from her own physical ailments, and, by the reaction of mind upon matter, her body will be in a better condition to bear the coming ordeal.

The choice of a good physician should be early made. Then the case should be put in his hands, and, without displaying undue fussiness, he should be consulted about details. Prudery should not interfere with a thorough examination, if it is thought advisable. While in the ma-

jority of cases the child is in the most natural position for delivery, in others there is what is called a malposition or false presentation. If the physician know of this in time, he can often by gentle measures remedy the trouble and save great pain and even danger. He should also know the shape and size of the bony parts which make up the pelvis, as such knowledge will greatly influence the management of labor.

The existence of diseases which might be transmitted to the child, or which might in some way increase the difficulties of labor, is sometimes unknown to the mother, but may be discovered by the physician in time to be checked.

The urine should be submitted for examination by the physician as often as once a fortnight, beginning with the sixth month of pregnancy. This is an absolute necessity, as many cases of kidney disease have resulted disastrously simply from neglect of this precaution. Early recognition of *albumin* in the urine will warn the physician to institute a course of treat-

ment which will greatly lessen the chances of harm.

Unless the young mother have in view some particular nurse whom she is anxious to have with her during her confinement, it is well to leave the choice to the physician. A graduate of one of the good training schools is to be preferred ; but, should the price be too high for the purse of the patient, an intelligent woman, who is willing to follow the doctor's directions implicitly, and who is not so filled with a sense of her own importance that she permits herself to add variations of her own to the treatment prescribed, may often be all that is needed. Midwives are to be avoided. In some countries they are by law obliged to receive special training ; in this country they are not. Many of them are able to conduct normal cases with intelligence ; very few know anything whatsoever about even the simplest complications.

The pregnant woman seems to be regarded as legitimate prey for the outpouring of advice, harrowing experiences, and superstitions known as "granny tales."

Some of the latter are so absurd that one wonders that any reasonable woman can be made to believe them. Others have a semblance of truth.

It is a time-honored belief that a thwarted "longing" upon the part of the woman for any special article of food will result in a birth-mark upon the child resembling in shape the coveted article. This idea is entirely without foundation, but it is easy to see how a succession of coincidences may have given rise to its conception. But what shall be said of the gravely uttered prediction that "the child would be born without a hair on its head, because the mother had never experienced heartburn during pregnancy"? Such a remark seems almost too senseless to quote, but it is a fair example of the many silly tales which would be harmless were it not for the fact that they disturb and worry the pregnant woman at a time when her mind should be peculiarly free from even the slightest anxiety.

CHAPTER III.

ESSENTIALS OF A HEALTHY PREGNANCY
—HYGIENE OF THE HOUSE—OCCUPA-
TIONS—EXERCISE—DIET—BATH-
ING—SLEEP—DOUCHES—
CLOTHING—CARE
OF BREASTS.

PREGNANCY, or the condition of being with child, is not, as many seem to regard it, a diseased state of the system, something out of the ordinary, unnatural, abnormal. It is, on the contrary, a natural condition, for which Nature has made every provision, and statistics go far to prove that the health of women who have borne children is, on the whole, better than that of the sterile. The condition, in other words, is physiological. Modern, or, as we call it, civilized, life has done much to complicate matters. The nearer to Nature a people live the easier are pregnancy and labor. As we cannot, however,

and would not if we could, revert to the condition of savages, our concern must be to ascertain what, under existing circumstances, are the best means to secure a comfortable pregnancy and natural delivery.

The first essential is good health on the part of the mother, which includes her perfect physical development, maturity, and a sound condition of the uterine organs. The pelvis should be of fair size, the muscles of the body in good tone, and the general health good. As regards maturity, it may be asserted that in the very young and late in life pregnancy is not so well borne as between the ages of twenty and thirty-five. This, of course, does not mean that it is disastrous to have them before or after that time, but simply that the best conditions for both mother and child are met with at a period when the parent is fully developed physically and mentally, and in the prime of her vigor. There is a general impression that a first labor occurring after thirty-five years is apt to be fatal. This is erroneous: labor

is likely to be longer in a woman of mature years, because the body is usually more firmly knit and less yielding, and the dangers of prolonged labor, such as exhaustion and a possible tendency to hæmorrhage, may be increased; otherwise there is no more danger than in the case of younger women. The very young and the very mature are more apt to miscarry than those in the prime of child-bearing life.

The effect of pregnancy upon uterine troubles will be touched upon in a later chapter. Suffice it to say that it is a mistake to suppose that they are likely to be cured by the condition. While a strong constitution is the first requisite to a good pregnancy, and while good health cannot be created in a few months, but is rather the outcome of inheritance or of judicious care from infancy, much may be done to strengthen the system and to overcome actual ills. It is always essential to observe hygienic precautions or the laws of health; it is imperative during pregnancy.

The VENTILATION, DRAINAGE, and

HEATING of the house should receive careful attention. The air should be kept fresh and pure, and should consequently be changed very frequently; but rooms must not be allowed to become so cold that the patient feels chilly while sitting in them. It is a mistake to suppose that women living in the country necessarily have more fresh air than those living in crowded cities. They have, to be sure, every chance of obtaining it, but how many improve the opportunity? In cold weather how often are the windows of the living room opened and the air permitted to rush in? Are they not kept closed while the stove rages, and the different members of the family sit in the room hour after hour, constantly adding to the heaviness and impurity of the air? Every few hours the windows should be opened for several minutes, and, as the incoming air is rich in oxygen, it will heat more rapidly than foul air. At night the window should be opened at least two inches; the smaller the room the more necessary is this measure. Night air is

not always the noxious thing which many people consider it; certainly not half so harmful as the atmosphere of a room which has been breathed over and over again by the persons in it, coming out each time from the lungs laden with waste matters from the body. It is not a pleasant thought that we are inhaling particles of matter from the organism of other people, yet we constantly and with perfect equanimity do what we consider it so unpleasant to think about !

One cannot be too careful in regard to drains, cesspools, and plumbing. No foul gases should come near the pregnant woman, whose system is doubly sensitive to injurious influences. There should be no doubt upon the subject : careful investigation should be made and evils promptly remedied. The room in which the patient is to be confined should, if possible, be chosen with especial reference to its healthfulness and comfort. It should be sunny, large, easily heated, easily ventilated, free from many hangings and draperies, scrupulously clean, removed from the neigh-

borhood of water closet or privy. Details as to its preparation will be given later. In summer, of course, a cool and shaded room will be chosen.

EXERCISE is of great importance to the pregnant woman. This does not mean that she is to rush restlessly about, unnecessarily fatiguing herself with extraordinary exertions, but it does mean that she should in pleasant weather keep in the open air as much as possible, and walk as much as she can without feeling tired. Dancing, horseback riding, running, jumping, lifting heavy weights, lifting the arms high, in fact all exercise of a violent or jerking nature, is to be avoided. Quiet, regular walks, drives in an easy carriage, rides in the horse cars (*not* the omnibus), may all be done with benefit. Women who do their own house-work, and who feel able to do it at this time, can continue their usual habits in that respect; but it would be best for them to hire some one to attend to the washing, scrubbing, and heavy sweeping. True, many strong women do all this work up to

the last moment and seem none the worse for it ; but the exceptionally strong cannot be taken as a guide to the average American woman. Moreover, the after-history of many of these same apparently robust women who take no precautions before labor, and who often leave their beds within two or three days after confinement, does not always bear out their boast that it "hurt them not a particle." When, a year or two later, they seek the dispensary clinics for treatment of "womb troubles," it seldom occurs to them that there is any connection between their present ills and previous imprudence.

No general rule can be given for exercise. What will benefit one patient may injure another ; but a little common sense goes a great way, and the reasonable woman will walk daily, if she can do so without fatigue, in spite of friends who would keep her stretched out upon her lounge in a condition of semi-invalidism, and refuse to walk when tired, notwithstanding accusations of laziness. If everything is progressing in a natural manner, let her

pursue her usual every-day life, enjoy the society of her friends, read, play, paint, and do whatever gives her the most pleasure and keeps her in a cheerful frame of mind, but avoiding ill-ventilated and crowded halls and parlors. At the periods of the month corresponding to menstruation it would be well for her to keep somewhat quieter than usual, and should there at such times be any pain she must maintain a reclining posture.

If the pregnant woman is of an at all excitable disposition, let her endeavor at this time to exercise special self-control ; for the nervous equilibrium is very easily disturbed, and hysterical habits can readily be formed which may persist and render her life intolerable to herself and to her friends. By hysterical is not meant simply fits of laughing and crying, but rather an excess of emotional feeling displayed in various ways, as extreme sensitiveness, irritability, excitement, exaltation alternating with despondency—in fact, “emotional excitement out of proportion to any given cause” ; a distur-

bance of the serenity which should characterize a well-poised nature such as should belong to one who is to be guide, teacher, and example to a human being. While all who surround a prospective mother should endeavor to keep her in a cheerful, happy, soothed, and calm condition, she herself should be doubly watchful to see that this state of mind be dependent upon inward force of character rather than upon external surroundings. To this end she should avoid the indulgence and cultivation of nonsensical fads and fancies, and rid herself of the idea that because she is "in a family way" she may and must do anything that comes into her head to do, on the pretext that to be thwarted in her wishes injures the child. Neither must she go to the other extreme and become so morbidly conscientious as to consider that the reaction of physical ailments upon the nervous system is an evidence of depravity upon her part. In fact, let her, as far as possible, deliberately keep her mind away from herself.

As to the question of DIET, if appetite

and digestion are good, let her eat as heartily as she feels inclined of wholesome, nutritious food, such as soup, meat, vegetables, bread, cereals, fruit, fish, oysters, etc. It is not, however, at all necessary to eat more than the usual amount of food, under the supposition that she is “eating for two.” Highly spiced or rich dishes, fried food, sweets, desserts, wines, are to be taken in moderation, on account of the predisposition to indigestion. Coffee and tea should be sparingly indulged in ; a fondness for milk is to be encouraged, for a better diet does not exist. It would even be desirable to try to cultivate a taste for it, or to overcome a repugnance. Many with whom it does not easily digest might be able to take it skimmed, or with a teaspoonful of lime water to the glass, or mixed with Vichy or Apollinaris, or containing a pinch of salt. The addition of a tablespoonful of Horlick’s Malted Milk renders it palatable to some ; or of a beaten yolk of egg, or a teaspoonful of sherry, port, or Madeira. Should any particular article of diet be known to disagree,

it must of course be avoided. The rule is childishly simple, but daily broken by thousands who are not children. Special diet for those suffering from constipation will be considered later.

Certain writers have advocated the exclusive use of fruit or of vegetables in order to secure painless labor for the mother. Even were the result insured by such a course, which we have no warrant for believing, no true-hearted woman would wish to secure relief from pain at the expense of her child's health. That this would be the case is evident, since the whole aim of the treatment is to lessen the development of the infant and make its bones soft and pliable—in other words, to underfeed it and to give it a predisposition to rickets.

BATHING.—Women accustomed to a daily sponge bath of cold water may continue its use, being careful, however, not to become chilled. Warm baths once or twice a week may be taken in addition; they should not be too hot, and should not last longer than fifteen minutes. It is of

extreme importance that the whole body be frequently washed. If the pores of the skin be clogged by dust or excretions, the free action of the perspiration will be interfered with, and, as water and other substances representing waste material from the system must be got rid of, double work will be thrown upon the kidneys, which in pregnancy are easily overtaxed and weakened, to their perhaps lasting injury.

Russian and Turkish baths offer too great contrasts of heat and cold, and too violent passive exercise, to be safe during pregnancy. Sea bathing is also too fatiguing to be endured by any but the exceptionally robust.

The external genital organs should be washed at least twice a day with warm water and soap, to which may be added a little Cologne or toilet water if desired. The advice may be considered superfluous by many naturally neat women, but it is necessary in view of the widespread superstition which exists against the use of water during pregnancy, and even during

menstruation. Water does no harm ; on the contrary, it prevents much annoying irritation and is in every way of benefit. Cold water may be used, but most people prefer tepid or warm water. Should there exist any irritation of the parts, clear water, or water in which a little borax is dissolved, should be used, or else, after washing with soap, the parts should be rinsed with clear water.

INTERNAL DOUCHES of warm (not hot) water may be taken with advantage, providing that certain precautions be observed. Very hot water, or water projected in sudden shocks, or coming with great force against the neck of the uterus, would be liable to cause miscarriage ; therefore the form of syringe worked by squeezing a rubber bulb is to be avoided, as it sends the water in jets. The fountain syringe, either as a rubber bag or any receptacle connected by a long tube with the nozzle, is the one to be preferred, as the water flows continuously. It must not be placed high above the body, for the force of the flow increases with the height;

about three feet will be the suitable distance. The nozzle, or "tip," may be of rubber or glass, but the holes in it must be on the sides and not at the end. The douche is to be taken in a reclining position, either on one of the douche pans which can be bought at a good drug store or instrument-maker's in the cities, or lying crosswise on the bed, the hips drawn to the edge and the feet resting upon two chairs. A rubber sheet or piece of oil-cloth is placed beneath the body, and rests in a receptacle upon the floor, in such a way that the returning water is conducted into it. By means of this position, and by hanging the douche bag at a slight elevation only, the stream of water is gentle, and the neck of the uterus and the vagina are bathed in it rather than subjected to any sudden shock. The douche may be taken in a sitting posture, which is of course a less complicated proceeding, but the water returns so quickly that it is less efficacious. However, it is much better than no douche at all. A teaspoonful of borax may be added to each quart of

water (no douche should contain less than two quarts), or a teaspoonful of the anti-septic known as creolin.

The bowels must move freely every day. More will be said upon the subject in the next chapter.

SLEEP is a necessity to the pregnant woman. Her nights should be undisturbed, and frequent naps during the day will calm her nerves and give her refreshment. She should lie down often in the daytime, closing her eyes and relaxing her muscles, even if she cannot sleep.

The CLOTHING, from the very early months of pregnancy, should be thoroughly loose and comfortable. Some women refuse to give up their corsets; in such cases they should buy the lightest corset possible, remove the steel, and let out the laces until they feel no pressure when breathing deeply. A far better plan is to buy one of the many waists made on purpose for pregnancy, and obtainable at any corset shop, dry-goods shop, or reform-underclothing establishment. The under-clothing is to be fastened to it by buttons

or tapes, so that their weight will be borne by the shoulders rather than by the hips and abdomen. It is not a good plan to leave off the stays and fasten the under-clothing as usual, without any substitute in the way of a waist; the bands and strings cut into the flesh and create much discomfort. The breasts, moreover, which are increasing in size and weight, need support. A tolerably comfortable waist may be manufactured out of an old corset by removing the steel, sewing on shoulder straps, and cutting off the corset all around (or, if preferred, simply in the front) just below the waist line, sewing buttons or tapes near the edge to support the under-clothing. The breasts are supported, the lines are shapely and trim, yet there is no pressure upon the abdomen. But the steel must be removed.

TIGHT CLOTHING interferes with the circulation, with breathing, and with the digestion, predisposing to faintness, dyspepsia, constipation, palpitation, and shortness of breath; moreover, the bowels are crowded down upon the uterus, which is

more than ordinarily liable to be pressed out of place, with very serious results to the patient.

GARTERS should not be worn. They interfere with the circulation and predispose to varicose veins. Stocking supporters that fasten to the corset waist can be purchased everywhere, or can be manufactured from a piece of elastic ending in two pieces of strong tape that contain buttonholes. Persons living in the country can order them by mail, as various kinds, all alike in general principles, are largely advertised.

The body should be covered with flannel or silk, which in winter must be thick and warm, in the summer may be gauze-like in quality. The main point is that every part of the body should at all times be thoroughly warm and comfortable.

THE CARE OF THE BREASTS is of great importance, since their neglect may lead to intense suffering when the child begins to nurse. Cracked nipples cause an agony of pain, and sometimes lead to the formation of abscesses.

The breasts begin at a very early date in

pregnancy to increase in size and to become tender. All pressure must be removed from them, and there must be ample room for growth. Cotton wadding and other heating materials must not be placed over them. Breast-forms of crinoline gauze, such as are sold in corset shops, might be used to advantage to keep off the pressure of the clothing without heating the breasts. A secretion of a small amount of milk is early formed, and is apt to ooze and dry upon the nipples, forming crusts underneath which the skin becomes very tender. This should be gently washed off every day with warm water and castile soap, and rinsed with pure water. There should be no rubbing, but gentle pressure with a soft sponge or a bit of absorbent cotton. After the washing a little cocoa butter may be applied, or olive oil, almond oil, or cocoanut oil if preferred. Some have advised hardening the nipples with alcohol, brandy, benzoin, arnica, etc.; but Nature has placed many fat glands about the nipple, indicating that it is to be kept soft and pliable, and it would seem the most

reasonable plan to assist Nature, not by removing the oil, but by adding more. Oil gently rubbed on the whole breast every evening will do much to relieve the feeling of tightness and discomfort which comes from its swollen condition.

Should the nipples be on a level with the skin or below it, they must be drawn out, so that when the child attempts to nurse it may be able to do so. Hard rubbing is injurious. They may be drawn out two or three times every day with the thumb and forefinger; or the bowl of a clean clay pipe may be placed over them, and suction made through the stem by another person. By means of a rubber tube fitted to the stem, the patient herself could perform this little manœuvre, which should be kept up for about five minutes at a time. Breast pumps are sold for the purpose of developing the nipple, but create so much suction that, unless used just in the right way, they are apt to do harm.

CHAPTER IV.

NAUSEA AND VOMITING—CONSTIPATION—
DIARRHŒA—EXCESS OF SALIVA—
CARE OF THE TEETH.

NAUSEA AND VOMITING are apt to occur in pregnancy, and, when not excessive, need cause no alarm. They are, however, the source of so much discomfort and suffering that all possible means should be taken for their relief. “Morning sickness” has been so named because it usually appears as soon as the patient raises her head from the pillow; it may, however, come on at any time during the day. Sometimes there is intense nausea and very little vomiting ; in other cases there is no nausea, but food will simply not remain in the stomach. These symptoms appear in the first few weeks of pregnancy, and usually disappear within two or three months, but they have been known in rare cases to continue through-

out the whole period of pregnancy. In any case it is better to consult the physician; but when the condition, in spite of all efforts to overcome it, persists, and the patient loses strength and grows daily more feeble, a physician *must* be consulted.

It would be beyond the province of this book to prescribe for this condition of "pernicious vomiting," which, untreated, may become a most serious complication. For the relief of the more ordinary form of the trouble there are several methods to be tried. In the first place, let the patient be given a cup of weak tea or of coffee, with or without a dry biscuit or a piece of toast, the first thing in the morning, before she has even attempted to rise. Let her then lie down for a quarter of an hour, a half-hour, or an hour if necessary, rise slowly and dress quietly, sitting down as much as possible and avoiding all sudden movements. If the breakfast is rejected, and the patient has sufficient courage, let her repeat it three or four times if necessary,

for sometimes by such persistence the food is finally retained.

Vomiting occurring just before or just after a meal can often be overcome by a strict attention to diet, by refusing everything which is difficult of digestion, and by experimenting with a variety of food substances in order to determine what will be tolerated by the stomach. Sometimes a little cracked ice taken just before a meal will relieve the trouble, or a mustard plaster or hot-water bag or bottle applied to the skin over the stomach may answer the purpose. If regular meals are out of the question, it is well to try the effect of giving a little food very often—about every two hours. Soups, chicken broth, clam juice, extract of beef in boiling water, to which is added a little rice or vermicelli, the white of an egg in ice-water or shaken up in sherry, a cup of hot milk, equal parts of milk and lime water, or milk and Vichy or Apollinaris, or soda water, koumyss, dry champagne, toasted Boston crackers, soda crackers, any dry biscuit or cracker which is not sweet, are some of

the articles of food which may be tried. It is essential not to repeat the same thing too often, otherwise disgust may be excited, and only a small amount should be given at each time. Nibbling a dry biscuit will often give comfort when nothing else is retained by the stomach. Should the patient express a decided wish for any particular article of food, unless it is known to be indigestible it would be well to try it, not because thwarting the "longing" would injure the child, but because the capricious stomach of the mother may be able to retain the coveted article and give the condition of the digestive organs a turn for the better.

It should be understood that in some cases the nausea and vomiting absolutely cannot be overcome, and the mother must simply wait and bear it as patiently as she can.

HEARTBURN often occasions much distress, but can rarely be entirely cured. A half-teaspoonful of the aromatic spirits of ammonia in water may give relief.

CONSTIPATION is one of the most fre-

quent disorders of pregnancy, and, while sometimes the result of a constipated habit, often occurs in those who at other times are perfectly regular. It is of the utmost importance that it should be overcome ; the waste material from the child as well as from the mother has to be thrown off during pregnancy ; moreover, neglect in this particular leads to nausea and vomiting, loss of appetite, headaches, pains in the back and abdomen, and haemorrhoids or piles. In the last months of pregnancy the presence of thick masses in the intestines may assist in causing premature labor. Straining efforts are also very harmful.

The patient should make an effort every day at the same hour to obtain an evacuation of the bowels. No matter whether it is successful or unsuccessful, it should be persisted in daily, and no attempt be made at any other hour than the one chosen. A habit may thus be established. Very little seems to be known by the majority of people about the laws governing the action of the intestines. It is not a simple pro-

cess, but one influenced by several agents. The intestines are partially composed of muscle, which, like all muscles, are controlled by the action of the nerves. A slow, continuous movement of these muscles narrows the tube and pushes its contents gradually onward through the twenty-five feet of its length until it reaches the rectum, whence it is expelled. This motion, or *peristalsis*, as it is called, is increased by some influences, diminished by others. The presence of a fair-sized mass of waste matter excites its activity, wherefore it is easy to infer that a diet proper to a regular action of the intestines must be composed not only of nourishing food, but of food which contains considerable material not needed in the system, which will act mechanically upon the walls of the bowels. The condition of the nervous system is also important, a fact which few people realize, and which may account for some of the apparently miraculous cures of constipation effected by methods of treatment which, by placing the patient's mind in a condition of passive acquiescence,

faith, or enthusiasm, as the case may be, bring the nerves into obedience to this mental state, and often do good work in relieving symptoms of diseases which are directly under the control of the nervous system. This influence is generally recognized in hysteria. But an ignorance of physiology prevents a great number of people from realizing that many forms of constipation belong to the class of nervous disorders. If they were not fonder of following vagaries than of listening to their own physicians, they might give science the credit for what they prefer to ascribe to "science falsely so-called." A proof of the action of the nerves upon the intestinal tract is seen in the action of violent emotions—grief, anxiety, suspense, worry—in causing constipation or diarrhoea, an experience common to every one.

Again, the flow of bile has a marked effect upon peristalsis, and foods adapted to stimulate its flow will sometimes have to be taken. Glands in the small intestines secrete fluid which aids in the healthy action of the bowels. In diarrhoea these

glands are so active that they afterward are obliged to rest from their activity, which accounts for the constipation that usually follows looseness of the bowels. Some medicines act directly upon these glands and give watery stools, resulting later in costiveness.

Exercise, by increasing the circulation of the blood and by giving tone to the muscles and also to the nerves, is a great weapon in the warfare against this disorder.

It will be seen, by this very imperfect outline of the forces controlling the action of the bowels, that the remedies lie close at hand. Diet is of the first importance, but here, as usual, individual peculiarities come into play, and what will benefit one will not affect another.

Sweets, such as cakes, candies, and pies, are constipating and should be avoided. Meat and bread are very nutritious foods, but do not contain enough waste material; to them should be added green vegetables, oatmeal and other cereals, brown bread, figs, stewed prunes, honey, and baked

apples. Fruit acts like a charm upon some, while in other cases it causes indigestion with resulting constipation. An apple, orange, or grape fruit before breakfast has cured certain cases of costiveness. Coffee and tea are as a rule constipating, but some people depend upon their morning cup of café au-lait to bring about the desired action of the bowels. Oftentimes drinking a large amount of water at different times during the day will be of use ; some people take a glass of cold or of hot water upon arising, and another at night just before retiring. Vichy or Apollinaris may be preferred. Should diet prove of no value in overcoming constipation, it is very likely that the nervous system is at fault. The directions given in a previous chapter should be followed, and a quiet, calm, healthy condition of the nerves cultivated. The formation of the habit of daily solicitation of the action of the bowels, with concentration of the mind upon the process, will probably act upon the nervous system in time. Sometimes the waste material daily accumulates in

the rectum, but the patient has not nervous force sufficient to expel it, or else the mass of matter is so dry that it passes with difficulty. In these cases the insertion in the rectum at night of a piece of cocoa butter, as large as the first joint of the little finger, will often be efficacious ; or injections may have to be resorted to, which may consist of two or three teaspoonfuls of olive oil in a little water, of about a pint of hot water in which is dissolved a teaspoonful of salt, or the same amount of soap and water. These dissolve the hardened masses. A small amount of cold water acts upon the muscles of the rectum, and is perhaps the best form of injection to take, as it strengthens instead of enfeebling the parts. A large amount of water should never be used in an enema ; it distends the rectum so enormously that the muscles are weakened by the stretching and after a while refuse to act.

Should the trouble lie further up in the intestine and be unaffected by diet, exercise, and injections, laxatives will have to

be administered. Strong purgatives must not be used in pregnancy, and very few laxatives should be taken without consulting the physician. Castor oil is too apt to be followed by constipation to be useful; Hunyadi water, magnesia, and seidlitz powders are of benefit where the bowels are to be cleared out with rapidity on some one occasion; but they should not be depended upon in habitual constipation, as they act upon the glands that secrete fluid and lead to their inactivity later. Licorice powder is a good laxative. Rhubarb is sometimes apt to cause griping. The preparations of cascara sagrada are the best to take, in spite of their unpleasant taste, as they act by strengthening the muscles of the intestines instead of weakening them. A teaspoonful of the fluid extract of cascara taken at night will usually be sufficient to produce a natural movement; more obstinate cases may take a second teaspoonful in the morning.

DIARRHŒA, the opposite condition, is often a troublesome complication of pregnancy. It may be simply the result of

undigested food which is detained in the bowels and causes irritation. The offending matter should be removed by means of a wineglassful of Hunyadi water, or a seidlitz powder; should this not cause a cessation of the difficulty, the doctor must be consulted. An injection of warm water will often be of benefit, and in any case will often relieve the burning sensation at the lower part of the rectum caused by acrid discharges. Only the simplest food should be eaten, avoiding green vegetables, fruit, and other opening articles of diet.

SALIVA in increased amount is often an annoying accompaniment of pregnancy. It is not dangerous unless it become so marked as to affect the appetite and digestion, and so to weaken the system. It is not possible to entirely cure this symptom, but relief has sometimes been obtained by chewing gum arabic, sugar candy, small pieces of dried orange peel, holding pieces of ice in the mouth, or rinsing the mouth with a few drops of the tincture of myrrh in a teaspoonful of water. Preparations of iron taken as a tonic give some relief.

INFLAMMATION OF THE GUMS may occur. It is sometimes confined to slight redness and swelling; in other cases the trouble is far more serious, the gums bleed profusely, are extremely tender, and shrink away from the teeth, which become loose in their sockets. A good dentist should be at once consulted. One, well known for his researches in the line of dental medicine, says: "During pregnancy the teeth should be well cared for, and on lines abreast with the knowledge of the day as to the causes of decay and loss of the teeth. The old saying that 'each child costs a tooth' has a grain of truth in it, but unfortunately the underlying facts in the case are generally misapprehended. The customary belief is that the substance of the teeth of the expectant mother is absorbed, and in some mysterious manner transposed to the organs of the developing child; in other words, that the child's teeth are nourished directly at the expense of the mother's. This is all a mistake. There is no such thing as a direct or indirect transference of substances from the teeth of

the mother to the child. The teeth of the pregnant woman and the nursing mother do suffer during these periods, but wholly from other and more simple reasons. In fact, the woman's condition is only to be held accountable to the same extent as, and no more than, any other invalid state that would bring in its train bodily weakness, mental and moral distress, accompanied by disturbed digestive functions. Such a condition causes neglect of the ordinary care and attention that the teeth usually receive. Teeth once formed and in their place become diseased and troublesome from external influences only. This fact should be constantly kept in mind. The decay of the teeth *always* starts on the outside, and is brought about by the formation of an acid or acids from the decomposition of particles of food in the crevices of or between the teeth. The direct agents at work are bacteria. It may safely be stated as a rule that if the mouth and teeth are kept clean and sweet, the teeth will suffer no more at this period than at any other in a woman's life."

Scarcely any one at the present day needs to be told that *bacteria* are microscopically small vegetable growths, of many forms and diverse natures, some harmless, others the cause of a variety of diseases. They develop rapidly wherever suitable ground is found, and this, for some species, consists in dirt or decomposing animal or vegetable matter, accompanied by moisture and warmth. Uncleansed teeth most admirably fulfil these conditions. It follows that cleanliness is their foe. The teeth must be brushed with a good tooth powder at least twice a day, having a care to twist and turn the brush in such a way that the bristles will enter the spaces between the teeth. An up-and-down motion is better than a sideways movement, and the patient need not be afraid of plying the brush vigorously, even when the gums are tender. At night the teeth should be scoured with castile soap, or with the Melior tooth soap sold for the purpose, in order to counteract acid secretions from food. The mouth should also be rinsed daily with an

antiseptic—a few drops of Listerine in a spoonful of water, or the Dental Elixir of Dr. Edward Kirk, which is a delightful preparation. Salt and water is a good substitute for those unable to afford the luxury of the above-mentioned antiseptics. If the patient is unable to attend to her teeth, an attendant or nurse should do so. Toothpicks and floss silk should be used to dislodge particles of food, and about once a week the tartar may be removed from the teeth by taking a little stick of wood (cedar if obtainable), thinned at the end, and dipping it into a good tooth powder, such as the Melior for instance, thoroughly scraping the teeth outside, inside, and between, especially near the gums.

There is no need of offering up teeth upon the altar of Maternity.

CHAPTER V.

ANÆMIA—SWELLING OF LOWER EXTREMITIES—VARICOSE VEINS—PILES
—PALPITATION—FAINTING—DIFFICULTY IN BREATHING.

THE circulation of the blood during pregnancy is more active than at other times, the pulse being increased in frequency and in fulness. The amount of water in the blood is increased, the red blood globules decreased ; there is less albumen and less iron than usual. This is not a diseased condition, but if at all exaggerated may easily become so, and even when not exaggerated is apt to cause certain unpleasant symptoms, such as dizziness, ringing in the ears, dimness of sight, flushing of the face, etc.

ANÆMIA, or poverty of the blood, shown by pallor of the face, of the gums, and of the mucous membrane under the eyelids, causes general weakness, loss of appetite,

pains of a neuralgic nature, dizziness, fainting, disturbances of digestion. The patient should be more than usually careful to follow the laws of health ; to live in the light and air and sunshine ; to walk daily as far as her strength will permit; to eat simple and nourishing food ; to keep the bowels open, secure uninterrupted sleep at night, and to rest frequently during the day; to keep the mind as cheerful as possible by congenial society, harmless amusements, and the reading of entertaining books. Should medicine be needed, and the physician not obtainable, one of Blaud's five-grain iron pills may be taken three times a day after meals.

SWELLING OF THE FEET AND LEGS, and even of the vulva, often becomes troublesome, especially toward the last months of pregnancy. When this is not due to a diseased state of the kidneys (a fact which the physician ascertains by examination of the urine), this symptom need not cause alarm unless the swelling be extreme. The treatment for mild cases consists in lying down or keeping the feet

elevated as often as possible, and in applying hot wet cloths when the swollen part becomes painful from distention. Remedies to increase the flow of urine and thus remove fluids from the body will be given, if necessary, by the physician, and tonics administered.

VARICOSE VEINS, or dilated veins, sometimes cause discomfort and pain, but are less apt to occur in a first pregnancy than when a mother has already borne several children. Women who stand much upon their feet are more subject to them than others. In the legs they cause a feeling of heaviness, fatigue in walking, and a dull ache which disappears in the horizontal position. When the trouble is seated in the deep veins and severe in its nature, the legs become feeble and trembling, almost unable to support the weight of the body. Rupture of these large veins is rare, and when it occurs is usually due to a fall, a blow, or to scratching. Should this accident occur, the leg must be elevated and a finger pressed firmly upon the bleeding point until medical aid can

be summoned. This is very important; the loss of blood, if excessive, may cause fainting, or even death.

For the relief of the discomfort caused by varicose veins the patient should, as



FIG. 2.

in the case of swollen extremities, lie down as much and as often as possible, or keep the feet elevated. Although moderate exercise is beneficial, let her avoid long walks, standing, or fatiguing efforts.

Garters greatly aggravate the trouble, as do tight corsets and bands about the waist. Abdominal belts, if well made and well fitting, afford relief by removing pressure on the veins. They may be obtained of a reliable instrument-maker in any city.



FIG. 3.

Cloths wrung out in hot water, wrapped about the leg and frequently renewed, often give relief, and a properly applied bandage is of the utmost benefit. A piece of soft unbleached muslin is cut into strips two and a half inches wide and sewed together at the ends. Beginning at the foot,

several turns are made around it to give a strong support ; then the bandage is wound firmly around the ankle and up the leg, letting each twist overlap the other about an inch. When the calf is reached and the bandage begins to bulge, it should be reversed by sharply folding it over upon itself, and then continued around as before. A little practice will soon make this easy. If this description is not understood, a stitch may be taken wherever the bandage bulges, to make it lie smoothly. It should be firm enough to give support, but should not press uncomfortably at any point nor give a general sensation of tightness. It should be removed at night. Some prefer a rubber bandage. Elastic stockings of silk or thread can be ordered at a reliable drug store or of instrument-makers. It is always best to have them made to order and fitted to the leg, but they can, if necessary, be ordered through the mail, carefully following directions for measurement which are furnished upon application.

Varicose veins of the genital region

often cause intense itching, but must not be scratched for fear of rupture. The patient should lie down a great part of the time, and, if there be a sensation of heaviness and stretching of the skin, she can apply a pad of cotton batting, wrapped in a linen napkin which keeps it in place. Hot wet cloths may be applied to give relief.

HÆMORRHOIDS, or PILES, are really varicose veins about the rectum, and may be internal or external. They are often caused by constipation, which allows of an accumulation in the rectum of hard matter which presses upon the blood vessels, interferes with the circulation of the blood, and consequently causes a dilatation of the blood vessels. Straining at stool further increases the pressure and the difficulty. They may also be caused by the pressure of the enlarged uterus upon the blood vessels. Sometimes the trouble is so slight as to cause very little inconvenience, merely giving a sensation of discomfort when sitting or standing, and disappearing within a few days. In other cases the pain is intense and the dis-

comfort almost unbearable ; the patient can neither sit, stand, nor walk without pain ; the piles, if external, swell and become tense and hard, tender and painful to the touch ; if internal they may bleed or swell, and protrude from the opening, giving a sensation of weight impossible to describe, and a constant desire to empty the bowels. Hard matters passing these tumors irritate and wound them, sometimes leaving a raw and ulcerated surface. The pain at stool is agonizing, and a burning sensation often persists during a great part of the day.

When the hæmorrhoids are very severe the physician must be consulted.

Constipation must be overcome, and a free movement of the bowels obtained every twenty-four hours. Powdered sulphur, compound licorice powder, magnesia, a wineglassful of Hunyadi water, will give soft stools. An injection of warm water in which are a few teaspoonfuls of sweet oil may produce the necessary action. The diet should be simple and consist largely of green vegetables

and fruit. Alcohol is to be avoided, and tea and coffee very sparingly taken. If the piles protrude from the rectum they must be pushed back in place, using a small sponge or a soft rag wet with cold water.

For relief of the pain, injections of a small quantity of cold water (half a pint) are sometimes of benefit. Small bits of cocoa butter or lard introduced into the rectum have a soothing effect upon internal piles. Hot wet cloths, upon which has been sprinkled a little laudanum, may be laid on the parts when the pain is extreme, but frequent local baths of cold water, and injections of cold water in sufficiently small quantity to be retained, are better as treatment of the condition.

Many women are troubled with PALPI-TATION OF THE HEART. This may be due to anæmia, to nervousness, to indiges-tion, or to pressure of the enlarged uterus upon the blood vessels, interfering with the circulation and thus with the action of the heart. It may come on after eat-ing, or at night, or be caused by violent

emotion. The best treatment is quiet, rest, and strict attention to diet, which should be nourishing and non-stimulating. If it come on when the patient lies down, let her be propped up with pillows and sleep in that position. Ten drops of the spirits of camphor or half a teaspoonful of the compound tincture of lavender in a tablespoonful of water sometimes calm the nerves. Very severe and frequently repeated palpitations must be treated by the doctor.

FAINTING ATTACKS sometimes occur and need not occasion alarm. They may follow a sudden change of position, be caused by excitement or emotion, or come on during a meal or while digestion is going on. The loss of consciousness may be complete or may be only partial. The woman should be laid flat on the floor or couch, without a pillow under her head, her clothes loosened, and plenty of fresh air should be admitted. Smelling salts may be applied to the nose, ten drops of the spirits of camphor in a tablespoonful of water may be put in the mouth, or half a

teaspoonful of the aromatic spirits of ammonia in the same amount of water. If that do not restore her to consciousness the hands and feet may be rubbed, and mustard leaves applied to the soles of the feet. A person subject to attacks of faintness must avoid crowded assemblies or overheated rooms, eat plentifully of simple, nourishing food, secure free movements of the bowels every day, and live in the fresh air as much as possible.

DIFFICULTY IN BREATHING is frequently experienced during the latter months of pregnancy, and while it may be due to the fact that the enlarged uterus presses the other organs against the diaphragm, and this upon the lungs, it is often purely a nervous symptom, and is frequently accompanied by a nervous cough. Very little can be done in the way of relief, except to see that the clothing is loose and to assume whatever bodily position is found to give the most ease.

CHAPTER VI.

DISORDERS OF THE BLADDER AND KIDNEYS—CONVULSIONS—ITCHING OF VULVA—LEUCORRHCEA—VEGETATIONS.

THE BLADDER being situated directly in front of the lower part of the uterus, it is easy to understand that as the latter organ enlarges it may by pressure cause a variety of disturbances in the former. There is often a desire to void the urine, occurring so frequently as to be a source of great annoyance to the patient. The amount of urine is not increased, but the pressure of the uterus upon the neck of the bladder causes an irritation which is manifested by straining movements that occur as often as every hour and result in the discharge of only a few drops of fluid. At a later stage there may be incontinence of urine—that is to say, an inability to retain it—coughing, sneezing, laughing,

walking, or a sudden movement causing a small amount to be quite involuntarily expelled. These disorders are difficult to cure ; often the only remedy is the birth of the child, and that must be awaited with what patience can be commanded. Some relief may be obtained by lying down with a pillow or two under the body to lift the pelvis and thus relieve pressure. The vulva must be washed frequently and thoroughly with hot water, as the urine has an irritating effect upon the skin, and talc powder or a good toilet powder may be dusted over the surface.

The opposite condition of difficulty in passing water, amounting sometimes to absolute RETENTION OF URINE, may be caused by direct pressure of the enlarged uterus, may depend upon nervous influence, or may in the later months be due to the position of the child's head as it sinks into the pelvis. It will not do to let this condition remain without treatment. If urine has not been passed for twelve hours, active measures must be taken. The patient may try the effect of immersion in a

very hot full bath or in a sitz bath for ten or fifteen minutes. Should this not succeed, the doctor or nurse must introduce the catheter and relieve the bladder; this is a very simple matter, giving no pain whatever. Retention of urine, if neglected, may lead to inflammation of the bladder, to distention, and even to rupture.

Allusion has already been made to the necessity for having the urine examined by the physician. As early as the sixth month specimens should be sent, in a *perfectly clean* bottle, as often as once a fortnight; in the last two months it should be sent every week. The importance of doing this cannot be overrated. Before collecting the urine the patient should take a vaginal douche and wash the vulva, otherwise discharges from the vagina are apt to complicate the examination.

The KIDNEYS are especially liable to become diseased during pregnancy, and, if the condition is recognized in time, much may be done to improve it. Some of the symptoms are: swelling of the ankles and legs, hands and arms and face, with a puffy

look beneath the eyes and a dry skin ; headaches, dizziness, ringing in the ears, dimness of sight, neuralgias, constipation alternating with diarrhoea, nausea and vomiting of an obstinate type. A patient who has some of these symptoms should not therefore jump to the conclusion that her kidneys are diseased ; as we have seen, swelling may come from a poor condition of the blood or too little of it, and disturbances of the circulation, while disorders of the digestive tract, pain, etc., may be due to various causes. She should, however, be put sufficiently upon her guard to take proper precautions, and to consult her physician, who will indicate a course of treatment. She can co-operate with him by, in the first place, avoiding any chilling of the body. It is well known that the kidneys and the skin, as well as the lungs and bowels, do their part in ridding the body of substances which it does not need. The amount of what is called insensible perspiration (that which passes off into the air as vapor and is not condensed in drops upon the surface of the body) is about two

pounds daily. Any one who has worn a rubber cloak for several hours at a time must often have had occasion to notice this perspiration condensed upon its inner surface because it cannot pass through it. Now, in cold weather, and under the influence of sudden chilling of the body, the blood vessels of the skin contract and less moisture is given off, which naturally throws more work upon the kidneys. Congestion of the blood also occurs in the internal organs under the influence of cold, in which the kidneys share; if they are already weakened by disease it can readily be understood that any extra effort on their part will tend to further injure them. The chief thing, then, is to keep the skin in a healthy condition, in order that it may do its own share, and even a little more than its share, in ridding the body of waste matters. Warm daily baths, with vigorous rubbing of the skin as soon as the patient leaves the bath; massage to stimulate the circulation and by that means increase the perspiration; exercise for the same purpose; warm flannels

all over the body to keep it warm and by their slightly irritating action to keep the skin in good condition; daily friction of the body with a brush or a coarse towel, are some of the means to be employed. A prolonged stay in hot water should not be resorted to, unless the physician advises it. Diet is of great importance in impending disease of the kidneys. In severe cases *nothing but milk* should be taken. If the patient object to milk it can be rendered more digestible by mixing it with Vichy, Apollinaris, or a little lime water; and more palatable by heating, by the addition of a tablespoonful of coffee or even a teaspoonful of rum, brandy, or whiskey. Rinsing the mouth with Listerine and water, peppermint water, or a few drops of the tincture of myrrh in water, will do much to relieve the unpleasant pasty feeling which some persons experience after drinking milk. Rennet pudding and other predigested milks make an agreeable change, as do matzoon and koumyss.

Alcohol, except in medicinal quantity, is to be avoided in kidney disease, tea and

coffee sparingly used, sweets and pastries to be entirely renounced, as little meat as possible to be eaten, the main reliance being placed upon milk and vegetables. Vichy water, Granular Lithia, Buffalo Lithia, Poland water, and seltzer may be taken in large amounts.

Convulsions as a result of kidney disease are fortunately of rare occurrence ; yet it is desirable to know the symptoms of their approach, since, if they are imminent, medical aid should be at once summoned. They are usually ushered in by restlessness and uneasiness, headache, dizziness, nausea and vomiting, flashes of light before the eyes, seeing things double, dimness or loss of sight, and twitchings of the muscles, especially those of the face. The twitchings increase in violence and are united to convulsive movements of the arms and lower extremities.

The patient should be laid upon a bed or lounge and her clothing loosened. An abundance of fresh air should be admitted to the room. Part of a folded towel, napkin, or handkerchief placed between the

teeth will prevent biting of the tongue. The feet are to be kept warm, and *no stimulants* are to be administered.

One of the most annoying of the minor ills of pregnancy is ITCHING OF THE GENITAL REGION, which at times becomes absolutely intolerable. It may be due to irritating urine, to a discharge from the vagina, to eczema, or it may be of purely nervous origin. Should simple measures fail to relieve it, the patient should not hesitate to have the parts examined, so that the cause of the trouble may be ascertained and treatment addressed to that cause.

The following are some of the methods which may be employed to alleviate the discomfort: washing the parts several times a day in water as hot as can be borne, carefully drying with a soft cloth; sitting in lukewarm salt and water for a few seconds; placing upon the parts a compress of linen or fine cotton soaked in borax water, in lead water, or in oil of sweet almonds, retained in position by a napkin. One authority recommends washing the parts with warm water and drying

them with linen, then saturating a small sponge in a lotion composed of

Bichloride of mercury.....	grains 31
Alcohol.....	fluidrachms 3
Rose water	fluidounces 1½
Distilled water.....	fluidounces 15

and passing it rapidly over the itching surface, so as to thoroughly moisten it. The first sensation is that of burning, but this may be relieved by washing with cold water, and subsequent applications become less and less painful. The bottle containing the lotion should be marked: "Poison. For external use only."

Another writer recommends the following ointment:

Camphor.....	drachm 1
Chloral hydrate.....	drachm 1
Ointment of rose water.....	ounce 1

The two first-mentioned substances are to be rubbed up together, and the ointment of rose water added.

The following lotion applied three times a day, after washing with water as hot as can be borne, is highly recommended:

Carbolic acid.....	drachm	1
Chloral hydrate.....	grains	40
Spirits of camphor.....	drachms	2
Glycerin.....	drachms	4
Water	sufficient to make	ounces 4

When eczema is the cause of the irritation, lead lotion (which can be obtained at any druggist's) or the lead and opium wash may be applied, the parts dried, and then powdered lycopodium, talc powder, or any good toilet powder dusted on the surface. The parts should always be washed immediately after passing urine, and must never be scratched or irritated. Perfect cleanliness, rest in the recumbent position, and an unstimulating diet will often be sufficient to relieve the distress. The avoidance of coffee alone will sometimes cure the trouble; tea and wine are to be eschewed; milk, cocoa, and the mineral waters may be substituted. Soups and broths, beef, mutton, poultry, vegetables, bread and butter, eggs, oatmeal, hominy, and other cereals, fruit in moderate amount, may be taken; but fried articles of food, pork, ham, and bacon, veal, salt fish, pas-

try, sweets, rich cake and puddings, must be avoided. Fresh fish and shell fish cause an irritating eruption in some cases; if there be no idiosyncrasy of this kind they may be eaten.

LEUCORRHŒA, a white or yellowish-green discharge from the vagina, is not infrequent in pregnancy. This alone is often the cause of the burning and itching just described. Vaginal douches may be taken for its relief, bearing in mind the precautions recommended in a previous chapter. To each quart of water used should be added a tablespoonful of powdered borax, or a teaspoonful of powdered alum, or one of zinc sulphate or of carbolic acid. The douche should be taken morning and evening, and the vulva washed several times during the day.

Small WART-LIKE GROWTHS sometimes appear at the entrance of the vagina, pinkish in hue, and accompanied by pain, itching, and a disagreeable odor. They need not cause alarm, for they are not dangerous, but it will be very difficult to get rid of them. They may be bathed two or

three times a day with tannic acid and water, using enough of the tannin to make a syrupy mixture, after which the parts should be kept separated by means of absorbent cotton or pieces of linen. Should these vegetations grow with great rapidity and become very troublesome, a physician must be consulted.

CHAPTER VII.

DISORDERS OF THE NERVOUS SYSTEM— MENTAL ATTITUDE OF THE EXPECT- ANT MOTHER—SLEEPLESSNESS— NEURALGIA

To those who have studied the delicate adjustment of the nervous system, and who know how its thousands of tiny branches extend to every portion of the human frame and how intimately these branches are connected with each other, it is matter for small wonder that so great a change as pregnancy should cause sympathetic disturbances in remote parts of the body, and even affect the mental attitude of the patient. As one writer well expresses it: "Pregnancy tries the endurance and pose, as it were, of the mind —its capacity to face privation, discomfort, danger, and, in the case of the primiparous woman" (one who is bearing her first child), "unknown and exag-

gerated horrors. In no walk of life where great cares of business or of state have at least their compensation, in no scene of action or danger where applause and heroism have their stimulation and reward, can there be found a more dismal and alarming conflict than that which in her imagination presents itself to the youthful, delicate, and untried woman when, alone and to a great extent unaided, she first faces the inevitable hour. With the rumors and traditions which her curiosity has gathered in since first she learned the secret of generation, she endures the anxious suspense of many weary months of waiting, while during this period she often suffers much physical discomfort and sometimes serious nutritional change. That this should affect her imagination, depress her spirits to the verge of melancholy, and even sometimes jeopardize her reason, will not be wondered at, I think, by those who engage extensively in obstetric practice." Loving relatives and friends are often grieved by the apparent change in the

disposition of the young wife ; irritability, morbid views of life, attacks of the "blues," fretfulness, an unreasonable state of mind, obstinacy, fads and fancies for eccentric and unusual habits and ways and for strange articles of diet, appear in persons who have hitherto been of a uniformly cheerful and evenly balanced temperament. These symptoms need not cause alarm ; without undue humoring, they can be largely checked by gentleness and patience, and they often disappear during the course of pregnancy, and, at latest, after the birth of the child. Let the young mother herself, as we have already suggested, summon all her powers of will and intelligence to combat these tendencies to unnatural and unamiable frames of mind, and she may in great measure avert the danger of fixing upon herself habits which may last a lifetime. Let her cultivate hopefulness, remembering that each one of the 1,400,000,000 inhabitants of the globe has been born in the same way. Let her realize that the marvellous advances of modern sci-

ence have done wonders in lessening the dangers of childbirth ; that the greater knowledge of possible complications enables the physician to remedy many causes of danger in pregnancy or early in labor ; that by careful examination of the urine another class of dangers may be averted ; that the skilled use of instruments not only shortens difficult labors, but permits of births which in the old days could not have occurred at all, but would have resulted in the death of child or mother, or both ; that the introduction of chloroform and ether has gone far to lessen the pain of labor ; and that the use of "antiseptics" has well-nigh abolished the much-dreaded childbed fever. Let her fix her mind upon the compensations, the joys of maternity, her proud position as a link in the chain of the past and the future. If she have not very strong maternal instincts, she need not be overmuch troubled by their absence, since they will usually be created by her child's need for her care ; but let her foster them by cultivating the acquaintance of sweet

and well-bred children, and by the reading of well-chosen books bearing upon the subject.

Let her prepare for motherhood as she would for a degree in letters, arts, or science, and she will find that her mental and moral disturbances will be greatly benefited thereby.

Certain nervous disorders of a physical nature often cause great distress. We refer to insomnia, and to neuralgia in its various forms.

SLEEPLESSNESS may become very distressing toward the latter months of pregnancy, and should be combated, as the pregnant woman requires more rather than less sleep than other women, and should endeavor to have surplus strength to meet the demands of labor. Let her in the early months form the habit of going to bed at a regular and early hour; let her avoid excitement of any kind in the evening, and endeavor to have the mind in as tranquil a condition as possible upon retiring. If she finds that eating a late dinner interferes with her sleep, let her take a

light meal in the evening. Coffee, tea, and wine are to be avoided. On the other hand, it may be of use to take a glass of hot milk, a bit of toast, a biscuit, or some other easily digested article just before going to bed. A warm bath in the evening will frequently induce sleep. The room should be well aired before she attempts to sleep, and well ventilated during the night; upon lying down the patient should try to relax both mind and body. We are aware that it is far easier to give this advice than to follow it; nevertheless something may be accomplished by persistent effort in the line indicated. The French are very fond of sipping sugared water in which are a few drops of orange-flower water, and claim that it conduces to sleep. It is harmless. If the sleeplessness cannot be overcome, the physician may be consulted in reference to some quieting medicine; but without professional advice the patient should on no account resort to drugs, no matter how highly recommended by a friend nor howsoever lauded by advertisements. A dependence upon drugs

may be thus initiated, and lead to the formation of a habit which will wreck the future well-being and happiness of the patient and all who care for her. It is impossible to be too emphatic upon this point.

TOOTHACHE, or dental neuralgia, often occurs during the first half of pregnancy. A dentist should be consulted to ascertain whether the teeth are in sound condition; if not, he will treat them appropriately. It is extremely foolish to have a tooth extracted simply because it aches; modern dentistry endeavors to preserve the teeth, even when they are diseased. If a dentist is not easily accessible, and the pain be known to be caused by a decayed tooth, various means may be tried for its alleviation. A hot-water bag may be pressed to the cheek, or a bag of hot hops or hot salt; a piece of cotton soaked in paregoric and laid on the gum against the aching tooth, or soaked in camphor and used the same way (the camphor will probably blister the gum, but, if the toothache be severe, the patient will scarcely mind that); or a bit of cotton soaked in the oil of cloves,

which may also be pushed gently into any cavity which may exist in the tooth. Sometimes relief is obtained by laying on a bit of cotton soaked in ether, or by equal parts of oil of cloves and chloroform used in the same way, or chloroform in which ten grains of alum (to the half-ounce of chloroform) have been dissolved. It is also claimed that cotton steeped in chloroform and placed in the ear of the affected side will often give relief when other remedies have failed.

R Dry alcoholic ext. opium,

Camphor.....āā grains 7½

Balsam Peru,

Mastic, grains 15

Chloroformāā drachms 2½

introduced into the cavity is said to stop the pain instantly.

The PAIN of NEURALGIA often closely resembles that of toothache from a decayed tooth, owing to the fact that the nerves which go to the teeth are themselves affected and that the pain is conveyed along their course. It is not always possible to relieve the pain, which, however,

often disappears of itself. Good effects are frequently observed from clearing out the bowels by a dose of castor oil, cascara, Hunyadi water, or some other laxative. This may be followed by a tonic treatment—cod-liver oil or Blaud's iron pills, for example. Neuralgia of the teeth and face is sometimes relieved by rubbing the cheek or part affected with a mixture of equal parts of camphor and chloral hydrate with double the amount of vaseline. A menthol pencil rubbed gently over the seat of pain has been known to help the condition. Or the following liniment may be used:

Tincture of aconite root.....	drachms 2
Tincture of belladonna.....	drachms 2
Chloroform.....	drachms 4
Soap liniment.....	ounce 1

The suffering woman should avoid draughts and keep herself quite warm, applying hot flannels, hops, or a hot-water bag to the face, if relief be obtained thereby. In the way of internal medication very little can be done, although some patients have derived benefit from the use

of fifteen grains of the salicylate of soda taken three times a day in water, after meals. It is unfortunate that very few remedies can be said to be efficacious, since scarcely anything causes more suffering to the patient than neuralgia.

PAINS in the ABDOMEN due to neuralgia are frequently observed during the later months of pregnancy. The treatment is the same as for the facial neuralgia. Very small blisters may be applied over the most painful spots—as, for instance, a piece of mustard leaf the size of a silver quarter of a dollar.

PAIN in the LOWER PART OF THE BACK, in the pelvis, and cramps in the thighs and legs caused by pressure of the enlarged uterus upon the nerves which supply the lower extremities, often disturb the patient during the later months. The cramps come on at night as a usual thing, waking the patient from sleep. Rapid friction and deep kneading of the muscles of the leg are the best remedies, or walking briskly around the room, or quickly extending and then bending the leg several

times in succession. For the relief of the pelvic pains and those of the back there is very little to be done; nevertheless it is worth while to try the effect of a supporting bandage for the abdomen, especially if the latter be very large and have a tendency to become pendulous. The bandage may be made of a piece of thick unbleached muslin, about a foot wide, shaped to the abdomen in front and snugly laced or pinned in the back. Or an abdominal supporter can be purchased of the instrument-maker. It is also of benefit to assume for ten or fifteen minutes at a time, night and morning, the knee-chest position. The patient kneels on the bed and rests her chest on a low pillow or on the bed itself. This is efficacious by removing pressure for the time being.

CHAPTER VIII.

DISEASES OF THE SKIN—MASK OF PREGNANCY—PRURITUS.

THE SKIN is sometimes affected in various ways under the influence of pregnancy, one of the most curious and annoying modifications being the appearance of yellowish spots on the face, known as the *mask* of pregnancy. That the light has something to do with their causation is shown by the fact that they never extend beyond the roots of the hair, and that when the hair is worn over the forehead the part covered by it is free from the spots. They do not itch, and they are not raised above the surface of the skin. As they usually disappear after confinement, it is not necessary to treat them, the more especially as treatment is, as a rule, absolutely unproductive of result.

On the other hand, some chronic cases of skin disorders are completely cured or

greatly modified by pregnancy and by lactation.

PRURITUS, or ITCHING, of the whole surface of the body is oftentimes a veritable torment to the pregnant woman, in a few rare cases even leading to miscarriage. A strict diet should be observed, such as was recommended in pruritus of the genital region; the bowels must be kept freely open. Alkaline baths may be taken: five ounces of the carbonate of potash, or six ounces of borax or of cooking soda, or six ounces of powdered alum to a bathtub full of water, may be used. The woman may remain immersed in it for a few minutes, and after drying rub into the skin a lotion composed of three or four tablespoonfuls of the following prescription in a glass of warm water:

Carbolic acid.....	drachms 1½
Glycerin.....	ounce 1
Water	ounces 3
Essence of thyme in sufficient quantity to impart an agreeable odor; this may be omitted.	

Cloths soaked in very hot water and

applied to the body sometimes afford relief. Menthol has been of use in some cases, in the proportion of ten grains to the ounce of vaseline or of sweet oil. A dusting powder which will occasionally give comfort is composed of

Powdered camphor.....	drachm 1
Bismuth subnitrate.....	ounce 1
Starch.....	ounce 1

Olive oil, cocoa butter, almond oil, or cocoanut oil may be rubbed into the skin, and bismuth or the above-mentioned powder dusted over the body after their use. A good way to apply the powder is to put it into a little bag of fine cheese cloth, or several thicknesses of the coarser cheese cloth, and with this bag gently beat the surface of the body. An eminent physician recommends this ointment :

Naphthol.....	grains 20
Extract of belladonna.....	grains 30
Lard	ounce 1

or a half-ounce each of borax and powdered alum in a quart of hot water. The patient must persist in trying the various

remedies suggested, and not be too easily discouraged; yet it might easily happen that none of them would be efficacious. If her medical attendant cannot help her with internal remedies, then she must endure as best she can and await the cure effected by delivery.

CHAPTER IX.

DISEASES WHICH FORBID PREGNANCY —EFFECT OF PREGNANCY UPON CERTAIN DISEASES.

THE diseases which we have already considered have been those which are liable to occur during the course of pregnancy, some of them, indeed, caused by the condition, and none of them apt to lead to disastrous results unless specially and very unusually severe in type.

As regards other diseases, not the usual accompaniments of her condition, but to which she may be exposed during the months of expectancy, it is essential that the pregnant woman should know her liability to contract them, their influence upon her and upon the child, and the influence of her condition upon the progress of the disease. She should also know what diseases should absolutely forbid her

having children at all, although such knowledge were best obtained before the condition occurs than after.

There is a widespread notion that diseases of the uterus are benefited by marriage and pregnancy. This is far from being the case. A healthy state of every organ in the body constitutes the ideal condition for the mother as regards her own health and that of the child. It is true that displacements are usually rectified during the months of gestation, but they often cause miscarriage or grave complications during labor. Moreover, with very few exceptions, the displacement again occurs, and usually in aggravated measure, after confinement.

NERVOUS DISORDERS and hysteria are popularly supposed to be cured by pregnancy, but this, again, is an error. A cure has followed in some cases, due perhaps as much to the substitution of an absorbing interest for a morbidly self-centred condition, and the arousing of the higher and nobler faculties and emotions, as to any physical influence. The usual

tendency would be toward the aggravation of such disorders.

The diseases which should absolutely forbid pregnancy are consumption, insanity, epilepsy, Bright's disease, cancer, certain diseases of the uterus, and deformities of the pelvis.

CONSUMPTION, in spite of an old theory that its course was delayed by the condition, is, on the contrary, usually hastened in its progress. The child is, as a general thing, sickly and scrofulous, or it may be apparently healthy and develop consumption later in life.

INSANITY is very liable to be inherited. It is itself sometimes, but not always, unfavorably affected by pregnancy.

EPILEPSY is so likely to be inherited that it is recognized in law as cause for divorce, if it can be proved that its existence in one of the parties to a marriage was unknown to the other before the ceremony. It is itself not much affected by pregnancy.

BRIGHT'S DISEASE is so disastrously influenced by the condition that, when

marked, physicians usually consider themselves justified in bringing on a miscarriage, or, at least, a premature labor. It is not, however, believed to be hereditary, the risk being entirely to the mother.

CANCER OF THE UTERUS is hastened in its development by pregnancy : the same is the case with certain other tumors of that organ, which are so stimulated to a rapid growth that they not only endanger the life and health of the mother by their development, but may prove an obstacle to the birth of the child.

MARKED DEFORMITIES OF THE PELVIS may endanger the life of either mother or child; lesser deformities may simply complicate labor. It should be left to the physician to decide which is the case.

Some forms of HEART DISEASE should come under the head of diseases forbidding the bearing of children, because they are aggravated by the condition of pregnancy. In any case they can only have a bad influence, since they weaken the circulation at a time when the woman has need of all her strength.

We have not placed ANÆMIA on the list, yet in its marked or pernicious form it certainly belongs in the category. The patient is already so enfeebled by the disease that the shock of labor might be fatal in its result; the child, too, would inherit a weak constitution, if, indeed, it survived.

The influence of the ERUPTIVE FEVERS upon a pregnant woman is so serious that every precaution should be taken to isolate her from possible infection, the old idea that she is not liable to "catch" infectious diseases being quite erroneous. The expectant mother cannot be too careful not to expose herself to the danger of contagion, for her own sake as well as that of the unborn child. This class of diseases tends to produce miscarriage, to cause hæmorrhage, and to affect the fœtus.

SMALL-POX EPIDEMICS usually give rise to many miscarriages and premature labors. Some authorities state that this disease attacks women who are pregnant more often than any other eruptive fever. It is apt to cause miscarriage and severe hæmorrhages. The child is often born with

the eruption or the scars upon the body, or the eruption may be developed eight or ten days after birth. Any woman in a family way, and exposed to small-pox, should be vaccinated at once, even if she have been vaccinated before. It is not, however, likely that the child within the uterus will be affected by this vaccination, therefore it should be subjected to the same treatment soon after birth.

SCARLATINA, or **SCARLET FEVER** as it is commonly called, is apt to be more fatal when it occurs just after confinement than before. The disease occurs rarely in pregnancy, and is somewhat modified by the condition.

MEASLES is a rare complication, but when it occurs is serious from its tendency to produce miscarriage and hæmorrhage and to predispose to pneumonia. The fœtus is apt to be infected, and may have the disease before birth or directly after.

ERYSIPelas is a complication to be dreaded *after* childbirth, but is not so serious during pregnancy.

Of the non eruptive fevers, **TYPHOID** and

TYPHUS occur rarely, but, when they do, are apt to produce miscarriage.

There is a prevalent idea that pregnancy lessens the chances of incurring MALARIAL FEVER, and to a certain extent this appears to be true, although some authorities think it is due to the fact that pregnant women are usually more carefully guarded than at other times, and therefore less exposed to the malarial poison. Nevertheless it does sometimes occur, and while it is not increased in severity by the condition, it is apt to react unfavorably upon both mother and child. Miscarriage or premature labor may be caused. The foetus is likely to be affected by the disease, cases being on record where it was seized by periodic convulsive movements within the uterus. Sometimes it develops the symptoms of malarial poisoning soon after birth. Occurring in the mother just after confinement, it predisposes to haemorrhages, and it has the effect of diminishing the secretion of milk.

RHEUMATISM OF THE UTERUS may occur in women who have a tendency to,

or who have suffered from, general rheumatism, and is characterized by pain or by a sensation of distress in the uterus without apparent cause. The pain frequently changes its place, going from one side of the uterus to the other, increasing and diminishing, sometimes causing a dragging sensation and heaviness that extend to the thighs, the external genital region, and the lower part of the back. Pressure increases the pain, as do active movements or straining efforts. The pain may suddenly leave this region and appear in some other part of the body. As rheumatism seems to have a predilection for muscles, and as the walls of the uterus are composed of muscular tissue, it is nowise remarkable that they should sometimes be the seat of the affection. It is not a dangerous complication, but it causes much pain and may predispose to miscarriage. It may seriously retard labor by increasing the suffering and interfering with the proper action of the abdominal muscles.

PNEUMONIA is a very serious complication of pregnancy. The blood is less rich

than at other times, and the heart less well nourished ; consequently, when the lungs become stopped up by such an inflammatory process as pneumonia, the heart is not equal to the task of increasing the force of the circulation to make up the difference.

SIMPLE JAUNDICE may occur during pregnancy and exercise no harmful effect. It is liable, however, to turn into the intense jaundice which is a symptom of a serious liver complaint and which may cause the death of the foetus.

Our object in enumerating the above list of diseases has certainly not been to alarm the pregnant woman or to increase her nervousness in regard to her condition. It has been with the view of impressing upon her the importance of increased vigilance to meet increased dangers ; the necessity for a tenfold greater observance of all hygienic precautions than at other times, scrupulous cleanliness, a rigidly sensible and nourishing diet, a sufficient amount of exercise and ample supply of fresh air, and avoidance of all possibility of contagion. Also, the desire has been to arouse her to

the necessity of a thorough medical examination. Let her, so soon as she suspects pregnancy, put herself under the care of her physician and permit a thorough examination of her heart, lungs and liver, and general condition.

If, during the course of her pregnancy, any of the diseases mentioned above should supervene, let her remember that we have indicated *possibilities* only in the result, and that to be warned of them in time to seek appropriate treatment is usually to avert the evil.

CHAPTER X.

MISCARRIAGE.

WHEN the foetus dies and is expelled before the end of the twenty-eighth week of pregnancy, the process is called ABORTION, or, in popular language, MISCARRIAGE; after the seventh month, when the child has a chance of life after its expulsion, it is termed premature labor.

Labor at term is a natural or physiological process. Not so miscarriage, which is unnatural and to be classed with diseases. It is far more harmful in its effect upon the system than childbirth, and the dangers attending it are very great, particularly the danger of an exhausting or fatal haemorrhage.

If the majority of women understood this fact more clearly, it is possible that they might be more cautious about endeavoring to avoid the trials of maternity by destroying the foetus. Leaving aside

the moral question involved, and the fact that the operation which they frequently, in the calmest manner, demand of their physician, is a State's prison offence, a consideration for their own physical welfare should restrain them from overturning the laws of Nature.

The existence of certain conditions in which childbirth would endanger the life of the mother is considered by law to justify the induction of miscarriage or of premature labor by the physician ; a deformed pelvis, or one too small to allow of the passage of the child's head, Bright's disease, and some other maladies belong to the category. The doctor is obliged to exercise the greatest judgment in determining what physical state calls for his intervention, and what time is the best suited to the purpose ; and when the operation is performed it is done with every possible precaution to avoid the danger of blood-poisoning and to control haemorrhage. The woman who endeavors to rid herself of her unborn child knows nothing of these precautions ; she swallows power-

ful drugs of whose action upon her system she is completely ignorant, and subjects herself to mechanical violence which is in itself harmful and which may lead to blood-poisoning and to many other evils. Some, it is true, escape injury ; but how many are rendered sufferers for years, only the clinics and the practice of physicians tell. This ignorance or carelessness of results is so widespread in this country that foreign scientists call the production of abortion the “ American sin,” for which reason we have deemed allusion to it to be in place.

Miscarriage, then, from a medical or hygienic point of view, is a misfortune ; an accident to be dreaded and, if possible, avoided. The causes are various. Some women seem to have a tendency to miscarry, apart from any known cause. One authority claims that temperament has a marked effect—for instance, plethoric persons being predisposed to congestive troubles and haemorrhage, lymphatic people often being subject to a certain weakness of the organs of generation, and those

of a nervous temperament being liable to suffer contractions of the uterus from very slight stimulus.

A markedly delicate constitution, by not allowing sufficient nourishment to the fœtus, may cause its death and expulsion. Obesity, poor food, prolonged inaction predispose to the trouble. All the diseases mentioned in the preceding chapter are likely to cause either miscarriage or premature labor. Diseases of the uterus, inflammation, tumors and displacements (especially when the uterus is tipped and curved backward) cause the accident. Constipation, by occasioning violent straining efforts, and by the accumulation of waste matter in the rectum causing a congestion of blood in the pelvic organs, and by direct pressure of distended intestines upon the uterus, can readily produce the condition, as may uncontrollable vomiting and coughing. A tendency to miscarry is sometimes more marked at the date corresponding to the monthly period. Causes from without are largely instrumental in bringing on miscarriages, as, for instance,

violent exertion, over-fatigue, falls, stumbling, blows on the abdomen, lifting heavy weights, strong purgatives, tight clothes, the prolonged use of the sewing machine, violent mental emotions, shock, fright. No general rule can be given, for women differ widely in their tendency to miscarry, in some a very slight cause sufficing to start the process, while others seem able to bear almost any amount of fatigue and exertion without ill effect. Prudence and caution would better be observed, however, even in the very robust.

Certain diseases of the foetus itself may cause miscarriage. The earlier an abortion occurs in pregnancy the less is it fraught with danger. The symptoms are usually pain and haemorrhage; both increase in severity with the advance of gestation. Sometimes the miscarriage is very sudden, but as a rule more or less marked symptoms precede it. These are, a feeling of lassitude, a sensation of weight and fulness in the abdomen, chilliness, a frequent desire to pass water, a white discharge from the vagina followed by a

slight discharge of blood. Or there may be decided pain in the back and in the abdomen, the latter occurring at regular intervals and increasing in severity. The flow of blood becomes more profuse, and the foetus is finally discharged. In some cases the flow is suspended for days or even weeks, and then reappears with renewed intensity. The foetus may be discharged in fragments, and some portions remaining behind may decompose within the uterus and cause blood-poisoning. If left to themselves these portions may be discharged in the course of time, but it is imperative to summon a physician and have them removed in order to avoid serious consequences.

In order to prevent miscarriage the pregnant woman should be exceedingly careful to avoid strains, jars, excessive fatigue, violent excitement, etc., etc. If she have a tendency to abortion she should be particularly watchful at the time corresponding to her menstrual epochs; anaemia and all other existing diseases must be appropriately treated, and malpositions of

the uterus corrected by the physician. Marital intercourse must be forbidden. If the symptoms of a miscarriage appear, the patient must lie flat in bed and send for the doctor. Everything that she passes from the vagina must be saved and shown to him. She must keep as quiet as possible, both physically and mentally, but she need not take the advice of those who would surround her with hot-water bottles or with ice bags. Heat increases the tendency to flow, and ice is an extreme measure which is scarcely necessary. If no doctor is obtainable, let her send to the druggist's for the fluid extract of viburnum prunifolium, and take a teaspoonful of it every two hours, or take a quarter of a grain of morphine if she can get it. She must remain in bed three or four days after the symptoms of the threatened abortion subside.

If miscarriage occur she must remain in bed ten days or a fortnight, bearing in mind that the tendency to haemorrhage is greater than after a natural labor.

Premature labor sometimes occurs from

the same reason that do abortions, and sometimes physicians bring it on artificially in order to benefit the mother's health or save the child's life. There is a prevalent notion among women that a seventh-month child has a better chance of surviving than an eighth-month child, which is nonsense, the reverse being the case. The nearer term a child is born the better developed will it be and the greater will be its chance for life and strength. The treatment during and after premature birth is the same as for labor and term.

A discharge of blood occurring at any time during pregnancy, whether large or small in amount, sudden or consisting of a perpetual little dribbling, should put the patient upon her guard and cause her to send for medical advice, while she is careful to lie down and to avoid all fatigue or mental excitement.

CHAPTER XI.

PREPARATIONS FOR CONFINEMENT.

THE preparations for confinement are important and should be attended to early, lest labor come suddenly and prevent.

The room chosen should, if possible, be large, sunny (in winter) and well ventilated, and removed from the vicinity of the water closet. If there is a stationary wash basin it should be tightly covered with a piece of wood ; and Platt's chlorides may be poured down the pipe so as to fill the trap, that there may be as little danger as possible of poisoning from sewer gas. Everything in the room must be scrupulously clean, and the fewer the hangings the better. Let the furniture include bed, chairs, bureau, and one or two tables which are to be given up to the physician's use. If they are of common wood, like kitchen tables, it will be all the better; or they may have clean towels spread over them, or oil-

cloth, or several thicknesses of clean paper, in case of the overturn of medicines, etc. A bureau, chest of drawers, or shelves of a closet should be near at hand, containing towels, sheets, napkins, and the baby's clothes.

A SINGLE BED is more easily managed than a double one; still the latter may, and in this country will usually have to be used. If preferred, a cot can be used for the labor, and the patient be transferred to the bed afterward ; this method has some advantages, but it is not a necessity.

A HAIR MATTRESS is decidedly the best ; if it cannot be obtained, as sometimes is the case in the country, one of excelsior, corn husks, or straw may be used ; but a feather bed is to be shunned, unless boards are the alternative. As one writer says : "It is a combination of every objectionable quality. Its use is nearly equivalent to putting the patient into an immense poultice ; it is warm, soft, absorbent, and consequently nearly always damp. Unless it is stuffed unusually full the patient sinks at once into a hole ; it is impossible to keep

it level, and if it once gets wet there is no way of renovating it."

The BED is to be placed in such a way that the physician may stand on the right side of it, so that when he faces the patient he can use his right hand. It should be prepared for labor as follows : Next to the mattress there should be a rubber sheet, about a yard and a half square, extending downward from just above the place where the patient's hips will lie, and reaching over the edge of the bed. Over this is placed a blanket, and then a sheet of cotton, although ~~men may be used~~ summer if preferred. This is the permanent dressing of the bed, and should be made secure by safety pins. Above it is placed a second rubber sheet, blanket, and cotton sheet. (The blanket may be omitted in both dressings, but adds to the comfort of the patient.) An old clean sheet, folded several times, may be placed across the bed, under the patient's hips, to receive discharges, or a pad made of clean bran or of prepared jute contained in a cheese-cloth bag. The covering sheet and blan-

kets are next put on, and the bed is in readiness. At the conclusion of labor, after the mother is washed and cleansed, the upper rubber sheet, with whatever lies between it and the patient, is removed, and a clean bed remains beneath. When rubber sheets cannot be obtained, oil-cloth, such as is used for covering kitchen tables, may be substituted ; it is inexpensive.

Whatever comes in contact with the patient must be scrupulously clean. This should be an axiom of labor. The ~~The clothing~~ for it will be given a little later. The woman at the time should consist of a flannel undervest (thick in winter, gauze in summer), a night-gown, and stockings. In some hospitals stockings extending half-way up the thighs are made of canton flannel and pulled on when the woman takes to the bed. They are easily made, as they must fit very loosely, they add much to the comfort of a modest woman, and they prevent chilling. A wrapper should be worn over the night-gown while sitting or walking about the room in the first stage

of labor. When the woman lies upon the bed for the second stage, it and the vest may be folded or rolled well above the hips, that they may not be soiled ; if preferred, an old (but clean) sheet may be several times doubled and fastened about the waist, opening in front, replacing the folded sheet or pad which was placed upon the bed to receive discharges. There should be a full supply of merino, flannel, or silk vests, and of night-gowns, in order that they may be changed every day, as nothing adds more to her well-being and comfort than clean clothes. Loose flannel jackets with wide sleeves may be worn over the night-gown in bed for warmth. Two or three binder bandages, about half a yard wide, and long enough to go once and one-third around the body (about a yard and six inches), should be provided. They are best made of unbleached muslin and pinned with ordinary or safety pins, as will be described later. Clean clothes for the mother should in winter be warmed by the fire, stove, register, or in the sun. There should be a liberal supply of linen

napkins, for after labor these need to be constantly changed to keep the discharges from decomposing. If the patient's resources permit, let her by all means procure or make, instead of the napkins, "antiseptic pads" (anti-septic means "against poison").

The disease known as puerperal fever or childbed fever, and called by physicians "septicæmia," used to be the scourge of childbirth; a committee of a Berlin society appointed to investigate the subject reported that from ten to fifteen per cent of the deaths occurring among women during the child-bearing period were due to puerperal fever, and that this disease destroyed almost as many as small-pox or cholera. As one authority said, "to be laid on the bed of confinement was equal to being delivered to the hangman." Many were the views held as to its cause; in the last century a physician advocated what scores of non-scientific people believe to this day, that some irregularity in the secretion of milk was to blame. "Milk-leg," "milk gone to the brain," "milk in the joints"

are expressions which testify to the belief that the milk wandered about the body in an aimless and erratic manner. In the middle of this century it was discovered that the disease was due to the entrance of some poison into the body from the outside, and that this poison could be destroyed by disinfectants ; later the immense strides taken in accurate scientific knowledge proved beyond question that puerperal fever was a form of blood-poisoning, caused by the entrance of a germ or bacterium into the body through the wounds made by labor. Methods of preventing its entrance were next studied, with the result that the death rate from this cause has been reduced from fifteen to less than one per cent. The first and most important of these methods is absolute cleanliness. Nothing favors the growth of bacteria causing this or any other disease so much as dirt. Consequently the freer the sick-room from lodging places for dirt, such as old or upholstered furniture, draperies, carpets, etc., the better the outlook for the patient. Soiled napkins,

towels, or clothes, vessels containing discharges or dirty water, are so many breeding places for germs and should not be allowed to stand in the room. Ventilation should be thorough, that floating particles of dust may be removed; while the woman herself, every article which comes in contact with her, and the clothes and hands of every person who attends to her should be scrupulously, absolutely clean. The physician and the trained nurse will of course be vigilant in this respect ; the hints here given are for the benefit of those who cannot see their doctor often, and whose attendants are not skilled in the modern nursing of midwifery cases. Cleanliness, then, is the first requisite.

ANTISEPTIC PADS, to be worn over the vulva after childbirth, are desirable. They may be purchased in the cities at a good pharmacy, in the shape of bichloride gauze, borated gauze, or salicylated gauze, and simply cut into the proper lengths and made of the requisite thickness. They are somewhat expensive, but by far the best since they come already prepared. If,

however, they prove too expensive, very good pads may be made at home of cheese cloth folded many times until it is about half an inch thick and of the width and length of a napkin when ready for use. A solution of bichloride of mercury is the best antiseptic to use in the preparation of these pads ; but as this substance is very poisonous, and from its lack of color easily mistaken for other liquids, it should be employed only under the physician's direction. CREOLIN, however, is an excellent antiseptic, which, on account of its milky color and its characteristic odor, cannot be mistaken for anything else. Five tea-spoonfuls of it added to a quart of water will make a two-per-cent solution, which can be used to wash the vulva as well as to prepare the pads. These should be wrung out in the creolin solution and dried, after which they are ready for use. They should be thrown away after using. If preferred, napkins may be used by preparing in the same way, or a pad may be reinforced by a prepared napkin to secure a thicker covering to the vulva. Absorbent

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cotton may be used instead of, or in addition to, the cheese cloth. These dressings are to be changed four or five times a day during the first week after delivery.

Carbolic acid may be used, in the proportion of two teaspoonfuls to the pint of water, but its odor is so unpleasant that the creolin will usually be preferred.

The list of ARTICLES TO BE PROVIDED for the mother's use is as follows :

A new fountain syringe holding at least two quarts of water.

A dozen sheets, absolutely clean. (Fewer will do, but it is desirable to have as many.)

Towels in abundance for the use of doctor and nurse.

Two rubber sheets or table oil-cloth, each one and a half yards wide.

An oil-cloth or rubber mat to put by the side of the bed.

Two blankets to use in making the bed as directed above.

Some old cotton sheets.

Cheese cloth, freshly boiled, for wash cloths.

Cheese cloth and creolin solution for pads.

A bedpan.

Two or three binders of unbleached muslin.

A clean tin or papier maché basin which can be

slipped under the patient's vulva to receive the after-birth, and which must be afterward thrown away.

Three clean hand basins of agate or earthen ware for physician's and nurse's use.

A slop jar *with a cover*.

Two new nail brushes.

Castile soap.

A flask of brandy.

For the BABY there should be provided the following articles :

A yard or two of strong linen bobbin or Chinese silk to tie the cord.

A small old blanket or square of soft flannel in which to envelop the child immediately after birth.

A bottle of sweet oil.

A pair of blunt scissors

A soft hair brush.

A powder box and puff, with talc powder or starch or lycopodium powder.

Castile soap.

Some soft towels.

A soft sponge.

Baby's bath tub and thermometer.

Pincushion with safety pins.

Some squares of clean, soft linen or muslin four inches wide.

A flannel shawl about a yard square.

Fine flannel bands.

The baby's clothes.

In regard to this last item, the chief thing to be remembered is that the clothing should be warm and the articles as few in number as practicable. There is no sense in tormenting an infant by intricacies of dress. Mothers pin a band around the child's abdomen so tightly that it can scarcely breathe ; put on diapers so large and clumsy that the poor little legs are pushed out of their natural position ; put on one garment after another, repeatedly turning baby over on its back, then on its front, pulling the arms up and through tight sleeves, buttoning, pinning, fastening the while, and then, with admirable logic, wonder why the baby cries, overfeed it to stop its wails, or give it some remedy for stomach-ache ! !

A soft flannel shirt, high-necked and long-sleeved, and opening in front, should go next to the body; then a band of flannel not hemmed at the edges; next, a diaper of linen a yard in length and half a yard wide, which is to be folded twice; then a flannel dress about twenty-five inches long from neck to hem, also open-

ing in the front, and over this a muslin slip. Woollen knitted socks, long in the leg, finish this costume, which is the one used in the Woman's Hospital of Philadelphia, and has much to recommend it, in that it is sufficiently warm without being heavy, has not a series of skirts upon waistbands, which are really superfluous and bulky, and by fastening in front is simply adjusted and prevents the child from lying on buttons, pins, or knots. If desired the outer slip can be made to fasten behind.

Some persons prefer to have a set of garments made, each a little larger than the other, and arranged together beforehand, slipping them on at one time.

In preparing a baby's wardrobe the expectant mother can of course collect as many dainty and beautiful little articles as she may desire, and her friends usually enjoy adding pretty specimens of their handiwork to the collection. Where economy is needful it is well to know the absolute necessities. These are, three dozen linen diapers, eight or ten soft flannel

night-gowns, eight or ten flannel day-slips, eight or ten muslin slips, six flannel shirts, six pairs of socks, three flannel bands, a little flannel or knitted shawl, and two or three flannel jackets. The number of each article can be increased as desired, and a warm hood, cloak, and afghan added.

A little crib or bassinet should be prepared, but *not* a rocking cradle. A large clothes hamper makes a good bed, and many a baby has slept comfortably in a bureau drawer placed upon two chairs, with a pillow for a mattress.

The French have a nice little contrivance, called a *maillot*, which might well be imitated here. It consists of a thin mattress covered by a slip. The slip has wings which meet in front and are tied together by tapes, enfolding baby, who lies on its back on the little mattress. Some have a footpiece, but this is too confining. It is a comfortable little affair, and the baby can be laid down for a moment on table or lounge without danger of rolling off.

To return to the preparations for labor.

There should be close at hand some means of rapidly heating water. In the city it is well to have a small gas stove in a closet or adjacent room, with a kettle of water upon it; in the country the stove in the living room should have a brightly burning fire, over which is a large boiler full of water. Warm water will be needed by physician and nurse for thorough cleansing of their hands before, during, and after labor; it will be needed to wash the mother and to bathe the child; and some *very hot water* might suddenly be wanted by the doctor to check haemorrhage from the uterus. Ice should also be obtainable. When the second stage of labor (to be described in the next chapter) is reached it is well to have the following objects arranged upon a table for the doctor's use: a basin in which to wash his hands, and a jug of warm water near it; castile scap and a new nail brush; another basin which he may use for bichloride of mercury solution; a bottle of creolin, a bottle of vinegar, scissors, and a pile of

clean towels. The hot water, as said before, should be near at hand, and ice obtainable at a moment's notice. The receptacle for the afterbirth should be within reach. The bed, of course, will be prepared and the bedpan close at hand. A clean night-gown and undershirt will be warming and ready for use if needed, as will the antiseptic pads and napkins. Safety pins should be accessible. The receiving blanket for the baby will also be warming; the scissors and linen bobbin, with four or five squares of clean linen, will be in the nurse's apron pocket, or on the table with the articles for the doctor. These careful preparations save confusion, bustle, and delay at the important moment.

Arrangements for the baby's bath and toilet will be, if possible, in another room. Here will be bath tub, hot water, the toilet articles already described, soft towels, squares of soft linen, the bottle of oil, the baby's clothes, all near the fire, with a low chair for the nurse or whoever washes the infant.

CHAPTER XII.

THE STAGES OF LABOR—DIRECTIONS FOR THE CONDUCT OF LABOR IN EMER- GENCIES—AFTER-CARE OF MOTHER.

LABOR is the act of delivery or birth. Its approach is heralded about two weeks previously by a slight decrease in the size of the abdomen, caused by the “settling” or descent of the child’s head into the pelvic cavity. Pressure being diminished above, the patient is usually able to breathe with more comfort, and disturbances of the stomach and palpitation of the heart are lessened. Increased difficulty in walking may, however, be experienced, swelling of the lower limbs is apt to be increased, there is a constant desire to pass water, sometimes diarrhoea occurs, and any tendency to piles is aggravated. A more or less abundant discharge comes from the vagina, which with the near approach of

labor may become tinged with blood, and is called the "show." Pains are very liable to occur a few days or even a fortnight before labor, and the patient has many false alarms. These pains are usually of the nature of cramps in the abdomen; they come on at regular intervals, and usually during the early hours of the night. Real labor pains, as a rule, start in the lower part of the back and gradually extend forward to the abdomen and downward to the thighs. They occur at regular intervals, which become less and less until only a few minutes intervene.

Before describing the course of labor it is well to recall to mind that the uterus is a muscular bag which has grown and been stretched until it is now large enough to contain a child from six and a half to ten or more pounds in weight, a "placenta" or afterbirth, membranes, and an average amount of from one to two pints of fluid. The lower part of the uterus which extends into the vagina is small, and is called the cervix or neck. The child usually lies with its head down and bent for-

ward upon its chest, its back to the front of the mother, its arms folded across the breast, the knees bent upward toward the middle of the body. A new-born infant always shows a tendency to double up its arms and legs from force of habit.

The navel string, or umbilical cord, which contains a vein and two arteries, leads from the child's navel to the afterbirth. It is about twenty inches long and about the thickness of the little finger. The arteries and vein are protected by a covering of gelatin and a membranous sheath. A closed bag of membranes completely encloses the child and contains the fluid in which the infant floats.

When "term" is reached the process of labor begins. The muscles forming the walls of the uterus begin to contract and the child is pushed downward. The first thing to be accomplished is the opening out or "dilatation" of the cervix, which must, from a small, spindle-shaped body, become as wide as the vagina and lower part of the uterus, in order that there may be no obstacle to the child's exit. The

child's head is ill-fitted by its size and shape to perform this task, hence Nature has provided a wedge in the "bag of waters." Some of the fluid by gravitation falls in front of or just below the infant's head, and, enclosed in the membranes, is with each contraction pushed further into the cervix. This is not the only cause of the opening out of the cervix, but it greatly facilitates the process. When the dilatation is so far advanced that the diameter of the opening is about three and a half inches, the membranes become so stretched that further pressure breaks them and the water is expelled. This is the "bursting of the bag of waters." An amusing story is told of a young medical student who, being left in charge of a confinement case, fled from the scene in alarm and despair when the membranes ruptured, thinking that the bladder had burst!

If the membranes do not open directly in the centre, but toward one side, the head of the child when it pushes forward may carry a bit of membrane upon it. This is the lucky "caul" of which so much has

been said by midwives, and which some parents carefully preserve to insure the child's good fortune! When the cervix is completely stretched, if the membranes do not rupture of themselves the physician usually breaks them so as to prevent delay. It is by feeling the cervix and determining the amount of dilatation that the doctor is able to decide how far labor has progressed and whether there is any delay in the natural process. The patient should always be willing to submit to the examination which the conscientious physician must make. Sometimes the bag of waters breaks very early—long before the cervix is opened out. This may somewhat delay matters by causing a "dry labor."

The complete dilatation of the cervix ends what is known as the first stage of labor. This, in the case of women who have never borne children before, usually lasts about sixteen hours, and is by some women considered the most trying period of all. The pains are of a nagging, teasing, or cutting and grinding character, and seem to accomplish nothing, although

they are in reality constantly dilating the cervix.

A word as to the meaning of the term "pain" as used in this connection. Many a woman has voted her doctor unfeeling because he asks if she has "good pains," and is satisfied when they are frequent and hard. The fact is that by "pain" he does not mean the actual suffering, but the contractions of the uterus which are advancing labor and shortening the period of torment. "Pain" is the technical term for this contraction ; as suffering accompanies the muscular act, and as the patient cannot know how the process is advancing, the only way that the physician can estimate the progress made (with the exception of an examination) is to ascertain the nature and frequency of the pains.

During this stage the woman should not lie down, and as a rule she will not wish to do so, but will prefer to sit, to stand, or to walk about. This position may favor the descent of the head. The contractions of the uterus are purely involuntary ; she can do nothing to hasten them, and strain-

ing efforts are worse than useless, as they only fatigue her and deprive her of the strength which she may profitably use during the next stage. She should try to bear the pains as patiently as possible, although this is of course difficult. The intervals between them are a great relief ; the patient gains strength and courage by their means and breathes more easily, while the child is saved from the disastrous effects of continuous pressure.

The physician during the first stage usually makes an examination, decides how far labor is advanced, and leaves the patient, to return in a few hours. This the suffering woman is apt to consider cruel behavior—she is in pain, and thinks that her doctor should be with her to help her, to hasten matters, and to relieve her sufferings. That, however, is not a wise thing for him to do. There is absolutely nothing to be done to ease her ; drugs which lull pain would lessen the contractions of the uterus, delay labor, and protract her agony ; there is no way of hastening this stage. Moreover, the physician

needs to save his physical and mental strength for the hard work of the following stages, which he will be quite unfitted to perform if he remain continuously in the sick-room, listening to every groan and complaint and obliged to refuse appeals for help. The average physician is not made of iron ; his sympathies are quick, but he is obliged to protect his own nervous system for the work required of him, instead of spending it in words, and for that very purpose he often assumes a quiet manner which the patient misinterprets as a lack of feeling. Let her wait, and she will see his sympathy expressed by skilled and arduous work.

The husband and friends of the woman are the ones to help and comfort her at this period of labor, but the sick-room must not be crowded. Very few people like to have spectators of their physical sufferings, and the presence of her husband and mother, or some other dear relative or friend besides the nurse, will be all-sufficient to make the patient feel that sympathy is felt for her and that help is near at

hand. Any friend who delights in picturing possible sufferings and detailing horrible cases of which she has heard, or confinements which she has gone through or seen, should, on some pretext or other, be removed from the room. It is brutal to give anything but encouragement to a woman at such a time. Possibly the friend intends to mitigate her sufferings by the contrast of worse cases, but she forgets that where results are still uncertain any one with the least fragment of an imagination would naturally think, "Perhaps my case will turn out to be similar in atrocity!"

If pressure with the hand upon the lower part of the back seems to afford any relief, let it be given by the husband or some person with strong muscles. Those who think that chloroform or ether could be advantageously administered during the first stage are grievously in error, as they would undoubtedly prolong labor. The woman's strength should be kept up by food, if she will take it; by tea, coffee, broth, beef tea, milk—but not by alcohol.

Let her during this stage remove her clothing and put on the vest, night-dress, and stockings in which she is to be confined, with a loose wrapper over all. She should also have her bowels cleaned out by an enema of warm soapy water. This is of extreme importance, as otherwise the pressure of the child's head on the rectum may cause the evacuation of its contents during the second stage of labor, which is an unpleasant and unfortunate occurrence. The bladder should likewise be emptied; if twelve hours pass without the patient passing urine, the doctor should be informed, that he may use means for its removal, as pressure on the neck of the bladder later by the child's head might prevent its evacuation and cause serious injury.

With the complete dilatation of the cervix begins the second stage, or stage of expulsion. The pains increase in severity and frequency, and the muscles of the abdomen now begin to assist. They contract involuntarily, but the patient can increase their contractions by voluntary efforts, and should do so. She would bet-

ter lie on the bed at this point, or, if she prefer to sit, be near enough to the bed to rapidly place herself upon it. If she wish it, a sheet or strong piece of cotton may be fastened to the foot of the bed, and she may pull upon it with each pain, bracing her feet against the footboard; but if the pains are very strong she would better not do this. She may lie upon her back or side. The question of posture in labor is an interesting one. In England it is usual for women to lie upon the left side ; in this country the back is usually preferred. "The Hindus, as well as the inhabitants of Madras and the East Coast, prefer the standing position, supported by female friends or the husband. This is likewise the case with the negroes of the Philippine Islands, with the women of Central Africa and those of the Boers, as well as many Indians. Formerly Frenchwomen were delivered in this position, and more recently the Slavs in Upper Silesia. The women of Polynesia, the negresses of Australia, and the Persians (kneeling upon three stones) give birth in the squatting

position ; while many Russians give birth to the child while swinging and hanging from a beam, and the Brazilians are even tied to a tree. Others hang to a cord suspended from the ceiling. Some English and German women are supported by the husband's arm. In Meeran the parturient woman is suspended by a large, strong towel and allowed to swing about. The Abyssinians, Georgians, Armenians, Persians, Tartars, Mongols, Kamtschatkans, Greeks, and Esthuanians all kneel. The Australians, the South Indians and Massauanians are delivered seated on a block of wood ; the negroes of old Calabar sitting on a stone; while women in Japan, China, Turkey, Greece, Egypt, and Messina prefer the chair. This chair is of very ancient origin, and has been used from the earliest Egyptian times up to the present. In old Rome, Holland, Germany, and among the Bedouins many preferred sitting upon some one's lap. The Brazilian Indians, the women of the Antilles, of the Sandwich Islands, of Sumatra, Australia, Japan, China, Päon, India, are delivered

in the recumbent position, lying on the side. The side posture is generally used by the Siamese Indians and North Americans. Finally, some Italian women raise the body and bend backward so that head and feet nearly meet."

The quotation has been introduced simply as being of some interest. In this country, as said before, the patient usually lies on her back, unless the physician direct otherwise. She can, of course, frequently change her position, and will be likely to do so from restlessness. As the child's head pushes down, the bladder will be pressed upon and the woman experience a constant desire to pass water. Toward the last let her restrain herself from getting up to sit upon a vessel, lest the child might suddenly be born in this situation.

With each pain the child's head advances into the vagina; after the pain it retreats a trifle, but advances further with the next one. Finally the head emerges. At this point, to the great distress of the patient, the physician sometimes by pressure forcibly holds the head back, which seems

to her needless and cruel. The reason is this: That part of the body between the vagina and the opening of the rectum is called the perineum, and plays an important part, too complex to be here described, in supporting the vaginal walls. The advancing head bulges and thins this perineum, and a sudden movement readily tears it. The wound may be slight, but in some cases it extends through to the rectum, and the after-consequences are injurious to health of the parts. The tear must either be sewed up immediately after labor or be rectified by an operation later. Now, by holding back the oncoming head so that the perineum may become gradually stretched, by preventing it from rushing through during a pain, and by gently helping it through in the interval between two pains, the physician can very frequently prevent all tearing, or at least limit it to a slight injury necessitating a few stitches only. Tears of the cervix are usually beyond control of the physician, but by no means occur in every case.

After the child's head is born there is a short pause, during which it turns so as to describe a quarter of a circle, in order to bring the shoulders in the best position for expulsion. With another pain or two these and the rest of the body follow, and the mother experiences a sense of immense relief. This ends the second stage, which, in case of a first confinement, is usually about two hours in duration.

A lull of from five to twenty minutes now occurs, during which time the nurse is usually busy in attending to the infant, in the way to be described later. Then with a few more pains the afterbirth is expelled and labor is at an end.

It sometimes happens that the physician is unable to get to a case in time, and that the nurse or some friend of the patient is obliged to conduct labor. A nurse who has graduated from a training school will know how to proceed, but a few directions to the inexperienced may not be out of place.

She should, in the first place, remain calm and clear-headed. Let her remem-

ber that, after all, labor is a natural process, and that complicated cases are the exception, not the rule. During the first stage there is little or nothing to be done. During the second the attendant should stand by the bedside, and, when the head appears in sight at the opening of the vulva, she should place her left hand upon the perineum—the space between the vagina and rectum—and with the thumb and forefinger of the right hand seize the child's head and press firmly upon it during a pain, relaxing the pressure, and merely keeping her fingers in contact with the head, between the pains. This should be repeated several times, until finally the head emerges. Now let her at once feel with her hand around the child's neck, to ascertain whether the navel cord is wound around it. If so, she should gently and slowly draw it down until there is a loop long enough to pass over the child's head. This will save the infant from strangulation. If not long enough to slip over the head, the cord will at least be loosened, and will slip over the shoulders when they

emerge. Let her wait quietly until the child's body is expelled, and then, receiving it in her hands, lay it gently down between the mother's thighs in such a way that the cord is not put upon the stretch, and that the face is not lying in the discharges which come from the vagina. The mouth should at once be freed from any mucus which may be clogging it.

Meanwhile another assistant should place a hand upon the mother's abdomen, upon the upper border of the uterus, which can be distinctly felt. She should not press in her fingers nor lay the hand flat, but, slightly hollowing it, lay it on the rounded border of the uterus and keep it there until the binder is put on.

No harm will be done if the afterbirth is delivered before the child is separated from it, but the usual way is to wait a few minutes until the pulsations in the cord are slow and feeble, then to take a piece of flat linen bobbin or of Chinese silk and tie it tightly around the cord, about one and a half inches from the child's body. An inch further away another ligature

should be tied, and the cord cut between the two with scissors. Any blood oozing from the cord which is attached to the child should be wiped off, and the cord watched for a few moments to be sure that the oozing has ceased. If it still flow, another ligature should be tied more tightly within the first one. The baby's eyes should now be carefully wiped with a clean, soft bit of linen, and washed with a little borax water (a third of a teaspoonful of borax to a glass of tepid water); then baby may be rolled in the receiving blanket, laid upon a lounge or bed on its right side, and covered with a warm shawl. Wherever placed, its presence should in some way be indicated, so as to prevent its being inadvertently sat upon, as has been known to occur. Providing that the child be kept warm (it having just come from a temperature of nearly 100° to a comparatively cold outer world), and that an occasional glance be given to the navel cord to ascertain that there is no bleeding, the infant may remain for several hours uncared for, if there be not a

sufficient number of persons to attend to both mother and child. Nurses who have not been trained in a regular school usually think that the child needs washing the moment the cord is cut, and run off with it to some obscure corner to scrub it, leaving the mother in charge of the physician alone. The child is no more unclean than it has been for months, and can well wait until the toilet of the mother, who has had long hours of pain and fatigue, has been attended to.

The delivery of the afterbirth constitutes the third stage of labor, and is the time most fraught with danger to the patient on account of a possible hæmorrhage. The physician is very seldom detained so long that he cannot arrive in time to attend to the expression of the afterbirth, and it should be left for him to do, the attendant quietly waiting with one hand pressed firmly upon the uterus through the walls of the abdomen, unless it is known that he cannot arrive within an hour, or unless there be hæmorrhage. In that case, after waiting perhaps twenty minutes for the

spontaneous expulsion of the placenta, the hand upon the abdomen should be pressed firmly downward with a squeezing motion. *The cord is not to be pulled on any pretext whatsoever.* The afterbirth will usually appear at the vulva, should be seized and extracted by turning it round and round upon itself, drawing it gradually down and out. Together with the membranes it should be kept for the physician's inspection, in order that he may satisfy himself that no portion has been left within the uterus, after which it should be disposed of by burning. The hand upon the abdomen must still remain there, and should follow the uterus, which is now about as large as a large orange, above the pubic bones. If the uterus should relax and become large again, the openings of the blood vessels, which are closed by the contraction of the organ, will be in danger of reopening and causing hæmorrhage, hence the necessity for firm pressure. The vulva, thighs, and any soiled adjacent parts should be carefully washed with a solution of creolin in water, soiled sheets and

clothing removed, clean garments put on if needed, and the antiseptic pad and the binder adjusted. The latter, as said before, consists of a piece of unbleached muslin a foot and a half wide, and long enough to go around the abdomen once and overlap. The lower border should come down well over the hips. Beginning above, it should be firmly pinned, but not pulled so tight as to be uncomfortable. Ordinary pins possess an advantage in that they can be placed very close together and secure a better-fitting binder ; in the hands of an inexperienced assistant the safety pins will be better, placed about an inch apart. When the front is fastened the binder may be pinned or sewed at the sides to adjust it to the figure. The pad and napkin may be fastened to the lower part of the binder. This bandage serves a useful purpose in giving a sense of support and comfort to the woman, and many believe that it assists in preserving the figure.

When perfectly clean as to person and clothes the mother should be left to rest. A sense of complete exhaustion will usually

prevent any desire for food, but if she wish for a little milk, broth, or beef tea, she may have it.

No one should now be allowed in the room except the husband, physician, and nurse, for it is desirable that absolute rest of mind and body follow the exertion of labor. Near relations or a very intimate friend may, *if the mother desire it*, come in for a moment, singly, after forty-eight hours ; but if the slightest restlessness or fatigue be noticed after these visits they must be interdicted. It would be better if no friends came for seven days, but it is useless to expect such self-restraint, therefore we consider it the wiser plan to advise that at first they merely step in to say a word of congratulation and affection, and then immediately withdraw. No one should come to the sick-room to hold a conversation with the patient under a week, if all is going well. To worry the young mother with any remarks about herself or the child which are not optimistic, to trouble her with any details of house-keeping, or to acquaint her with unpleasant

news is intolerable. She should be allowed to sleep a great part of the time, and no well-meaning friend should read to her or talk continuously to her for a week at least.

The air of the room must be kept fresh at all times. By carefully covering the patient the windows may be thrown wide open three times a day for a few minutes, even in winter; in summer they will of course be open, unless the noise from the street be less endurable than the heat.

The patient must be kept clean. The antiseptic pad is to be changed five or six times a day, and the vulva washed with the creolin solution. Vaginal injections are not to be given unless the doctor orders them. The whole body must be sponged with warm water and soap (and each part wiped immediately after washing) every two days, the face and hands washed at least twice a day. All soiled articles are to be removed at once from the room.

The discharge from the vagina is called the *lochia*, and for two or three days fol-

lowing labor consists of blood mixed with mucus and shreds of membrane. It then becomes yellow or pale green, finally thinner and less abundant, and ends in two or three weeks. Cleanliness will usually prevent odor, but if, in spite of washing with an antiseptic solution, there should be a strong and fetid smell, the doctor should be told of it at once.

The binder is to be changed every day, and great care exercised to see that it lie smooth, as creases irritate the patient's skin.

During the first twenty-four hours rather light food should be taken—broths, gruels, beef tea, milk, cocoa, dropped eggs, tea and toast. On the second day chicken, beef, mutton, and other simple articles of diet may be taken. The old idea of starving a woman after labor was absurd ; after such an exhausting experience she needs to be sustained and nourished. Of course care must be exercised in the choice of food, and nothing eaten which is in itself indigestible or which is known to disagree with the patient.

The **BOWELS** are usually constipated for a few days after labor. On the third day an enema of warm water, or soap and water, or water and castor oil, may be given, or two tablespoonfuls of glycerin or a glycerin suppository may be inserted into the rectum. If this is not sufficient to produce a movement the physician will prescribe a laxative. The bowels must be opened daily thereafter.

The **BLADDER** should be emptied every eight hours at least. A great many physicians believe that it is positively beneficial to the patient to sit up for the purpose of passing urine ; it allows clots and discharges to escape from the vagina, and it often causes the urine to flow when it has been found impossible to pass it in the recumbent position. If difficulty is experienced in passing urine, hot wet cloths may be laid on the abdomen just above the pubic bone, or the patient allowed to sit upon a vessel half-filled with steaming hot water.

The **CARE OF THE BREASTS** and nipples is of the utmost importance. Milk is not

secreted until the third day, but Nature has provided a secretion, called the colostrum, which acts as a laxative upon the infant's bowels. After the mother has rested about two hours after labor, the child should be put to the breast. The nipples must be washed with warm water, and a little sugared water may be put on them if the child shows any disinclination to nurse. The mother should turn on her side (the right side if the right breast is given), and the child's head be supported by her arm. The nipple drops toward the infant's mouth, and is more easily taken than in other positions. Not only is this early suckling of advantage to the child, but of the greatest benefit to the mother, as, through influence of the connecting nerves, it excites the uterus to contract and thus assists in preventing haemorrhage.

The milk usually appears on the third day, but may be delayed until the sixth, and may also be attended by a slight rise of temperature with a little restlessness. If the breasts are so full of milk as to be painful, they may be *very gently* rubbed

with sweet oil in the direction of the nipples, one hand holding up the breasts in such a way as to make counter-pressure. The patient in such a case should take very little liquid food, and would better take a laxative, such as Hunyadi water, or seidlitz powders, or magnesia. A BANDAGE often gives relief, and may consist

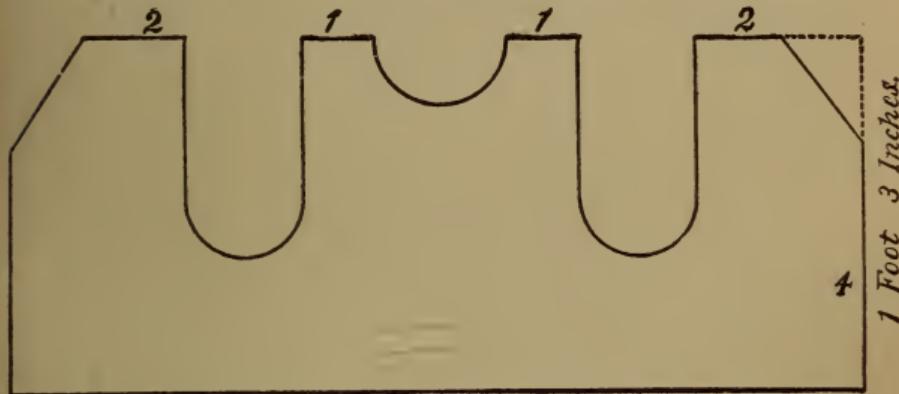


FIG. 4.

of simply a support passed under the breast and over the opposite shoulder, or of strips of muslin wound around the breast and opposite shoulder several times, each successive layer slightly overlapping the one below. A bandage much in use is made of a straight piece of strong unbleached muslin a yard long and

half a yard in width, in which holes are cut for the neck and the arms, as shown in the accompanying figure, and is both simple and efficacious. Part 1 meets part 2 and is fastened over the shoulder; 3 and 4 meet in front and are fastened by safety pins.

The nipple must always be kept perfectly clean, to which end it must be washed, before and after each nursing, with tepid water, or borax and water, and dried with a clean, soft cloth.

Care of the breasts during pregnancy will do much to prevent tender or cracked nipples. When they exist, however, during lactation, they require special care, for the pain caused by them may become agonizing. They may be treated by applying daily cocoa butter, cocoanut oil, or olive oil; or a little of the compound tincture of benzoin may be brushed over them with a camel's-hair brush; this will cover the cracks with a little film, and at the same time relieve the pain and hasten a cure. Relief may also be obtained by laying on cloths wrung out in a solution

made by adding a teaspoonful of lotion of sugar of lead to a glass of water, or by dusting on a little powdered gum arabic, or oxide of zinc, or tannin, or by first covering the nipple with glycerin and then dusting on the tannin. Should all this be of no avail a nipple shield must be used for a few days. It should fit closely; the part nearest the breast should be of glass or of metal, and the tip of rubber. It must be removed after nursing, thoroughly cleansed, and kept in cold water, while the breast should be washed with tepid water and some one of the substances mentioned above applied to the nipple.

Intense pain is sometimes caused by the child's biting the nipple. It is astonishing what force the little creatures are able to exert. The nipple shield is the only protection, and must be worn in such a case.

However great the pain caused by nursing with a fissured nipple, we would strongly urge the mother to persist in the attempt, and not to give it up unless every means of relief proves to be a failure and the agony too great for endurance.

Few women realize that their refusal to nurse is a veritable calamity to the child. Infants fed at the breast are stronger, healthier, and far more flourishing than those brought up on the bottle, and resist diseases much better. Some children do fairly well upon artificial feeding, but these are the exception, and are usually very healthy and vigorous by nature. Language is scarcely strong enough to emphasize the fact that every mother who can do so should nourish her own child and permit nothing to interfere with this paramount duty. Extreme delicacy, consumption, epilepsy, or other grave disease of course forbids her nursing; fevers, shock, grief, all violent mental emotions, render the milk unfit for the infant's use; Nature sometimes fails to supply milk in the necessary amount or of suitable quality; social conditions sometimes oblige the mother to work for the support of herself and child, necessitating her absence from home—all these cases and some others forbid her nursing her own child. But the woman who, to save herself trouble or to pre-

serve her figure, deliberately allows the supply of milk in her breast to dry, and gives her child over to a wet-nurse or brings it up on the bottle, is guilty of criminal negligence of duty. Her punishment will be sure to follow, either in the delicacy of constitution of her child, in the endless annoyances caused by the average wet-nurse, or the troubles incident to bottle-feeding, which are far greater than the trouble of nursing.

CRACKED NIPPLES, if neglected, may lead to the formation of ABSCESS of the breast. When, three or four weeks after confinement, the breast becomes hard, hot to the touch, swollen and painful, and the patient has a chill and fever, the child must be kept entirely away from the breast, nursing upon the other side only, and the physician be at once summoned. Poultices must not be applied at this stage, as they encourage the formation of pus. The physician will endeavor to prevent the formation of pus, but in some cases this will be an impossibility. The only resource then is to open the abscess, and

the sooner this is done the better, for delay means more pain, much more destruction of tissue, slower healing, and a far worse scar than does a prompt incision.

The question, “HOW LONG SHALL THE PATIENT REMAIN IN BED?” is a difficult one to answer, inasmuch as different cases require different treatment. Many a tenement-house patient gets up and does her housework within three or four days, and considers her neighbor a lazy creature because she lies in bed a full week. She may suffer no inconvenience, and she may live to repent her temerity. In either case her example is not to be followed by the woman of average strength. Some pin their faith upon a “nine-days” lying-in, but this cannot be made into a rule.

The uterus is gradually returning to a normal size, and on the ninth day it has usually contracted sufficiently to be contained within the pelvis; still this is not always the case, and it is far better to err upon the safe side and remain in bed too long rather than too short a time. No doubt it is irksome to stay in one place

after the first exhaustion has passed away, but it is also exceedingly irksome to have to be treated for uterine disease in later months. So long as the discharges are tinged with blood the patient must remain in bed. If they have ceased to be thus tinged, if she feel fairly well, she may on the eighth day sit up in bed for half an hour ; the next day she may be transferred to a lounge, and remain there for a few hours lying down. This may be repeated the following day, after which, if she have not been fatigued by the experiment, and if no flow of blood have followed it, she may sit up in an easy chair for an hour, and increase the period day by day, always lying down again the moment that she feels fatigued. She must not stand on her feet nor walk about for more than a few moments until the tenth to the fifteenth day, nor go down-stairs in less than three weeks, nor out of the house before the fourth or sixth week, and then only in very pleasant weather. Two or three weeks after labor the physician will probably desire an opportunity of examining the young

mother, to ascertain whether there have been any tear of the perineum or of the neck of the womb. The first of these conditions is usually repaired immediately after confinement, but there are cases in which it is not deemed advisable. The second condition can be remedied with a slight operation at an early date, but if neglected may lead to inflammation and ulceration, to pain and weakness, which will reduce the patient to a state of semi-invalidism, cripple her usefulness, deprive her of many pleasures, and perhaps years later necessitate a really serious operation. Therefore permission for the examination should be readily granted.

We have purposely avoided a description of abnormal labors, since they *cannot* be conducted by nurse or friend. A physician's presence is necessary in any labor; but whereas directions can be given for meeting the emergencies of natural labor, the accidents due to malpositions of the child and other grave disasters cannot be described in a book of this nature, nor can directions be given for their treatment.

CHAPTER XIII.

CARE OF THE INFANT AFTER BIRTH—
BATH—DRESSING THE CORD—EXAMI-
NATION OF CHILD—ATTENTION TO
BOWELS AND BLADDER—
SLEEP.

THE care of the child now demands our attention. The tying and severing of the cord, the washing of eyes and clearing of the mouth, have already been mentioned. The BATH is next in order. Bathtub, clothes, towels, etc., are prepared near the fire, stove, or register. The nurse sits on a low chair, and may have a flannel apron or a piece of flannel or soft blanket on her lap. The baby at birth is more or less covered with a thick, greasy substance (called the *vernix caseosa*), which serves the double purpose of protecting it while in the uterus and of assisting it to glide through the maternal parts during labor. This is not to be removed by soap and

water, but must be dissolved by means of sweet oil or lard. The baby's eyes and face should first be washed with a soft, clean cloth and dried ; then the oil is thoroughly rubbed on the head and neck, which are then washed with the cloth and water. The chest, back, abdomen, legs, anus, and genital organs are treated in the same way, with especial care to cleanse between all folds of skin where the vernix is thickest. The bathtub is filled with water at 95° to 100°, and the baby immersed in it, the nurse's left hand supporting the neck and head, and her right hand rubbing the body. Soap is not necessary ; the skin of a newly-born infant is so sensitive that soap only irritates it. When discharges from the bowels occur the adjacent parts may be washed with soap, which may also be used upon the whole body when the baby is a few days old. Pure Castile soap only should be used. Upon removing the infant from the water it is at once rolled in a warm, soft towel and rubbed quite dry. If this is thoroughly done no powder will be needed,

except on the genital region ; talc, talcine, powdered starch, or lycopodium are preferable to perfumed toilet powders, which are apt to contain substances irritating to the baby's delicate skin. The baby is not put into a bathtub again until after the stump of the cord has fallen off, but is sponged daily. The genital region should be washed with clear water every time the diapers are changed (which must be done as soon as they are wet or soiled), and powder freely applied. Diapers should never be used a second time without washing. By attention to these details the baby is frequently saved from chafing and irritation of the parts.

The DRESSING OF THE CORD is the next process in the care of the child, and here the simplest way is the best. It should be carefully dried and dusted over with powdered boracic acid. A piece of borated absorbent cotton or soft old linen about three inches square, with a hole in the centre, is slipped over the stump, which is turned upward toward the baby's face and to the left side, and the lower portion of

the cotton is turned upward, so that the stump lies between two layers of absorbent cotton or of linen. A soft flannel belly band is placed over all, and fastened by means of double tapes which pass around the child's body and are tied in front. This bandage should be rather loose than tight. The dressing is left on until the cord comes away; when it falls, on about the fifth day, a small raw surface is left. It must be remembered that blood-poisoning might occur through this little wound, and it must be treated aseptically—that is to say, a little boracic acid in powder may be dusted over it until it heals. After this the flannel belly band is no longer needed.

The old method of greasing the cord was harmful ; putting on charred rags was in a measure useful, as charcoal is an antiseptic ; but boracic acid is easily obtained at the druggist's and is much better for the purpose. When the cord falls off, if there should be any bleeding from the navel (the place of detachment) the doctor must be summoned. If there is any delay

in his coming a little styptic cotton should be procured at the druggist's and laid on the bleeding surface. Over that a cent wrapped in a bit of borated cotton should be placed and bound down snugly with the flannel band. This may save the child from bleeding to death.

After the cord is dressed there should be a careful EXAMINATION of the child, to ascertain whether it is perfectly formed, whether there is an opening to the rectum, etc. Inexperienced persons are sometimes alarmed at the shape of the baby's head, which immediately after birth is very long and drawn out, sometimes with a puffy tumor upon it. The bones of the skull are not solidly united in an infant, as in an adult, but connected by membranes, so that as the head descends through the bony pelvis and the vagina the bones can slightly overlap and thus adapt themselves to the size and shape of the canal through which it travels. In consequence of this "moulding" the head emerges peculiar in shape, and it often requires two or three weeks for it to become of a natural round-

ness. There should be no pressure on the head to "shape" it, which some nurses delight to apply. The puffy tumor may be found upon any part of the head, and is usual in tedious labors. The explanation of it is that at the spot where it is formed there happens to be no pressure ; the other portions of the head are pressed upon by the maternal parts, consequently a swelling results at this point. It is not beautiful to look at, but it need cause no alarm, as it soon disappears.

The examination of the child being completed, its flannel shirt, diapers, and other clothes are put on, having a care to fasten them with tapes or with shield pins. A cap is not needed, as the circulation in a child's brain is very active just after birth.

A few hours after birth, as has been said before, the infant is placed at the breast. The colostrum (the substance first secreted by the breast) causes a discharge from the bowels of a dark substance called the MECONIUM. If this is delayed a day the baby should have a pinch of brown sugar,

or a teaspoonful of sweet oil, whey, or oil of sweet almonds.

If no URINE is passed the first day a teaspoonful of cold water may be given or the child immersed in a warm bath. In fact, the baby may have passed water in its bath unobserved by the nurse, so that no real cause for alarm exists.

After its first nursing the baby may be put to SLEEP. It is not a good thing to put it in the bed with the mother ; it is not a healthy way for the infant to sleep, and there is danger that the mother may overlay it. A small crib may be drawn up near the bed, and if the baby from the first is accustomed to sleep in it instead of being rocked in a cradle or dandled in arms, much future unreasonableness on the part of the small sovereign will be saved. Moreover, it has been well stated that when the baby is in the mother's bed its head is often covered with the bed-clothes and it breathes impure air, and if it is restless the mother is apt to put it to the breast to quiet it. This is of all things most foolish. A baby is as apt to cry

from an overloaded stomach as from an empty one, and the effect of soothing it with a little more milk is like that obtained from eating a second dinner to stop dyspepsia caused by the first. Often the trouble is thirst ; this is not quenched by milk, which is a food and not a drink. A little sweetened water will frequently cause a cessation of the trouble.

CHAPTER XIV.

DEBILITY IN THE NEWLY-BORN— APPARENT ASPHYXIATION— CARE OF THE EYES.

THE child is not always born in the healthy, normal condition which was taken for granted in the last chapter.

From various causes it may be dead when delivered, and the utmost sympathy must be felt with the poor mother who has borne so much discomfort for so long a period, and such pain at the last, only to be disappointed in her hopes and plans. People are too apt to dismiss the subject lightly from their minds, giving little pity, because the child had not lived long enough for its parents to become attached to it, nor for its absence to create any sense of loss. Unquestionably a child endears itself daily, and its death at a later period is harder to bear ; nevertheless the mother usually feels a warm love for her

babe long before its birth, its untimely death causes more sorrow than is understood by her friends, and the effect upon convalescence must often be marked. The tenderest care and consideration should be shown to her, and everything done to console and uplift her spirit, not underrating what her loss has been to her, nor seeking to persuade her that her child was too young to have had any individuality and that therefore its death is not to be mourned. To a woman with delicately organized nerves this thought would be pain rather than comfort. Let her rather be encouraged to think that her child existed for a while for a definite purpose—perhaps that she might in its memory do some good thing for some other child in one of the thousand little ways that will suggest itself to the kind heart and fertile brain. Such a thought as this will do much toward sustaining her, and toward inducing her to co-operate heartily with physicians, nurses, and friends in the effort to regain health and strength.

The child may, when born, present signs

of EXTREME DEBILITY; it may be emaciated, its skin pale or bluish in hue, its breathing difficult, and its voice moaning instead of lusty and vigorous. In a hospital such cases (often those of prematurely born infants) have frequently recovered by being placed in a *couveuse*, or incubator, a box so arranged that while there shall be perfect circulation of air within it, the child is kept in an atmosphere of great heat. In the hospital in Paris where this apparatus has been used for several years the mortality of prematurely born children has decreased from 66 to 36.6 per cent.

Persons living at home cannot, as a rule, have such an apparatus, nor do physicians keep them on hand. The hint to be taken from them, however, is to keep the child as hot as possible—from 98° to 100°. The room must be extremely warm, the infant kept in cotton batting with warm flannel wraps over it and hot-water bags and bottles surrounding it. We are told of infants who have been given up as dead, and abandoned in despair and left lying

before a very hot fire; in a little while the extreme heat was found to have resuscitated them, and they have lived and done well.

Such feeble children should not be fatigued by bathing or by much handling. It is best to oil them, and then to wash them, if possible, in water of about 110° in temperature, or in whiskey, or whiskey and water, at the same degree of heat. If the debility is extreme, even this should not be attempted; the child should simply be wrapped in cotton batting and flannel. It will probably be too feeble to nurse, in which case some of the mother's milk can be drawn into a warm glass or teaspoon (by gently rubbing the breast toward the nipple) and dropped from the finger into its mouth. Or, as recommended by one authority, a teaspoonful of brandy or whiskey may be added to five teaspoonfuls of hot water slightly sweetened, and of this mixture the infant may be given a teaspoonful or two every few minutes, if absolutely necessary, or every quarter-hour, half-hour, or hour. It is claimed

that the lives of several feeble children have been saved by this method.

Occasionally infants are born APPARENTLY DEAD who by patient and intelligent efforts can be revived. The first thing to be done is to make sure that there is nothing in the throat obstructing respiration. The nurse's little finger, covered with a clean, fine bit of linen or muslin, may be crooked and introduced into the mouth, and quickly swept around the throat, dislodging any mucus there. If this should not be sufficient to restore breathing, the treatment will differ according to whether the infant is in one of two conditions of asphyxia. In the first the face is red, or bluish, or mottled; the child lies motionless without breathing, while the heart may beat feebly or not at all; the eyeballs protrude and are bloodshot. In this case one of the best things to do is to untie the tape from the navel cord and allow a teaspoonful or two of blood to escape, then quickly and firmly tie it again. Sometimes this alone is sufficient to restore life. If not, plunge the baby into a bathtub of water at about 110°—and

always use a thermometer to regulate heat, which must not be guessed at—keep it in for a half-minute, raise it to the surface of the water, and dash *very cold* water on the face and chest. If the attendant prefer not to bleed the child, and if she wish to do something to restore it even before the afterbirth has been delivered, the hot bath can be drawn to the side of the bed upon a chair and the baby immersed. It would be better to cut the cord, letting a little blood escape, tie it, and then practise the immersion. The baby may be plunged into hot and cold water several times alternately, ending with the hot water and immediately wrapping the child in flannels. Sometimes the attendant, by dropping a little brandy from a height upon the child's breast, may cause breathing movements. Another way is to hold the baby's nose and, placing the mouth against its lips, breathe into them, then release the nose and remove the mouth so that the air can come out again, which it will be aided in doing by pressure upon the child's sides at the same time. This may be repeated

every five seconds. A case is on record of a father who, in a hopeless fashion, breathed into his baby's lungs in this manner for an hour without any success, but was finally rewarded by slight efforts at breathing on the child's part, who presently breathed naturally and lived to become a strong, healthy man.

Another method, known as the Sylvester method, is to lay the child on its back, with a little pillow or rolled towel under its head ; its arms are then slowly raised above its head and held there for five seconds, then pressed down firmly against the sides of the chest. This can be repeated five or six times, after which the baby should be put in hot water to prevent chilling of the body. Then it may be taken out and the Sylvester method tried again.

If the child is born apparently dead, but the skin, instead of being red and swollen, is extremely pale, the bleeding must not be practised. On the contrary, the infant should not be separated from the after-birth until the pulsations in the cord can

no longer be felt. While still attached to the placenta it should be plunged into hot water, and then cold or iced water may be dashed upon the chest and face. If this cause the child to breathe or gasp, a little brandy or whiskey and water, in the proportions given above, can be administered. If these means fail the cord should be cut and tied, and one of the methods of artificial breathing tried, which must be patiently and systematically persevered in.

About three days after birth the nurse or attendant should carefully watch the baby's eyes for the first sign of inflammatory trouble. If a little, thick secretion appears beneath the lids at the corners of the eyes, it should be gently washed off by a clean bit of fine linen, or, better yet, a new camel's-hair brush dipped in borax and water (half a teaspoonful of powdered borax to a tumbler of water), after which a little sweet oil may be applied. Sometimes this will be sufficient to remedy the trouble. When, however, the secretion persists and becomes thick and creamy, the lids being swollen and red, the most

active measures must be taken or the baby may become blind. It has been estimated that 71.99 per cent of all persons who become blind during the first year of life become so from this disease, which is known as *ophthalmia neonatorum*, or ophthalmia of the newly-born; and when one considers that the disease can usually be prevented by cleanliness and care, pity for the sufferers is mingled with indignation at the ignorance or carelessness which permits the calamity.

It will be remembered that the direction was given to wipe the baby's eyes with a clean rag and wash them with a solution of borax in water as soon as it was born. This was with the view of preventing the disease of which we are now speaking, for if the discharges from the mother get into the baby's eyes they are, under some conditions, capable of occasioning the trouble. The danger is not over after birth, however, for carelessness in the use of towels or rags which have been used about the mother and become stained with the discharges has often been the cause of

infection. It must not be inferred that all vaginal discharges have this power of infection ; it is only when certain diseased conditions exist that they possess it, but, as it is not always possible to tell whether these are present, the safest way is to fore-stall possible evil by prudent care. Therefore the most absolute cleanliness should be the rule in everything that is used about the infant.

If, however, the disease have already attacked the eyes, unceasing vigilance will be required to combat the foe. Night and day the child will have to be cared for by physician and nurse to save it from blindness. The matter is too serious for home treatment ; moreover, there are certain delicate shades of difference in the conditions impossible of explanation to those inexperienced in diseases, and which require modifications of treatment. If only one eye is affected the other should be protected by a bandage of bichloride gauze, a little square of the gauze being placed directly against the eyelid. The disease is infectious, and the greatest care

should be exercised to prevent the discharges from getting into the unaffected eye or into the eyes of any of the attendants. After washing and dressing the child's eyes the nurse's hands should be washed in an antiseptic solution made with creolin (five teaspoonfuls to the quart) or carbolic acid (two teaspoonfuls to the pint), or, under the physician's directions, of the bichloride of mercury.

CHAPTER XV.

INFANT FEEDING—WEANING—DIET AFTER WEANING—BATHING.

THE FEEDING of infants is a subject of the utmost importance, and the one which causes the most perplexity to the inexperienced mother. We have already emphasized the fact that she should nurse her child herself, if she be in good health and have an abundant secretion of milk. Even if the amount be scanty it is better for her to give the child what there is, and supplement the diet with artificial food, than to resign nursing it altogether. Human milk is the most perfect food for infants; it is, moreover, completely free from *bacteria*, and can therefore not be the source of infection to the child, which unfortunately is not the case with cow's milk.

Assuming that the mother nurses her own child, the manner and time of feeding are of importance. While at the breast it should devote itself to eating and not be allowed to doze and begin again. The breasts should be used alternately, one at each feeding, and after each meal the child's mouth should be washed out with a bit of linen dipped in tepid water. Twenty minutes will usually suffice for each meal.

We have already stated that the child should be put to the breast as soon as possible after labor. It can be put there at intervals of two hours thereafter. During the first few days it will lose weight, because the fluid secreted then is insufficiently nourishing; little else will be needed, however, unless the baby is fretful, in which case a teaspoonful of warm milk and water may be occasionally administered.

The following rules have been given for the feeding of infants, it being understood that the child is fed less frequently at night than during the day:

1st week,		every 2 hrs.;	10 feedings	in 24 hrs
1st to 6th week,	"	2½ "	8	" "
6th to 12th "	"	3 "	6	" "
At 6 months,	"	3 "	6	" "
At 10 "	"	3 "	5	" "

If a child is nursed too often the water in the mother's milk becomes lessened in amount and the milk is too rich for the infant's digestion; while if the intervals between nursing are too long the milk becomes thin and watery and is not sufficiently nourishing.

Of course no iron-bound law can be laid down in regard to the intervals of feeding, because constitutions differ and the quality of the milk also differs in different women, but the foregoing are excellent general rules for guidance. Sometimes the baby does not nurse properly and so does not secure all the food that it needs. But it is safe to say, as we have already said, that infants usually suffer from overfeeding rather than underfeeding, and that it is foolish to still every cry by putting the child at once to the breast.

The nursing mother must strictly ob-

serve the laws of health if she wish her child to thrive. She should lead a regular, quiet life, free from excitement, should keep early hours, have plenty of fresh air and exercise, and be especially careful in her diet. The infant is exceedingly sensitive to changes in the mother's milk produced by indigestion, fasting, fatigue, mental emotion, fits of passion, bodily ailments, certain articles of food, medicines, etc. The mother should eat simple, nourishing food, avoiding spices and condiments and anything known to be indigestible. Coffee and tea may be taken in moderation, but it is a mistake to suppose that a large amount of beer will increase the flow of milk. Milk itself is the best food for that purpose and should be taken regularly and in large amount. Strong purgatives are to be avoided.

If the physician decide that in the interest of the child the mother would better not nurse it, the secretion of milk should be stopped by means of compression exerted by the bandage previously described. Belladonna ointment should first

be rubbed over the whole breast, and cotton batting distributed smoothly and evenly around the breasts, filling up the hollows, so that pressure may be equalized. The bandage is now put on very tightly and left on for from seven to nine days. If pain is caused the pressure should rather be increased than diminished.

The choice now must be made between a WET-NURSE and artificial feeding. Under proper conditions the former is the better, but the conditions are hard to fulfil. People of moderate means can ill bear the expense, for wet-nurses realize their value and charge high for their services. Persons of large as well as those of small means find it hard to stand the exactions, whims, and caprices of the average wet-nurse, who can usually constitute herself absolute monarch of the household by threats of leaving. Moreover, a woman excellently qualified to nourish the child is not necessarily intelligent or properly educated in regard to the care of it in other particulars, and constant supervision is needed in order to insure that the

rules of health are observed. The physician should always be the one to choose a wet-nurse; there are certain qualifications necessary in the way of physical health which he must ascertain, and certain investigations to be made as to the nurse's habits, disposition, the age of her own child, etc., etc.

Of all ARTIFICIAL FOODS, cow's milk is, on the whole, the best. It requires modification before feeding it to an infant, for it is less sweet than human milk, is richer in certain substances, has an acid instead of an alkaline reaction, and forms thicker and tougher curds in the stomach. The greatest care must be exercised to secure the best milk obtainable. It should be fresh, of good quality, and be taken from perfectly healthy cows. It used to be supposed that the best results were obtained by having the milk from one cow only, but this the best authorities now consider to be an error. Cow's milk is by no means always the same in its composition, as it depends largely upon the quality of the food which the animal obtains, certain herbs

altering its taste and sometimes its constitution. Moreover, during the different periods in the milking the milk varies in quality, and the child usually does not receive a mixture of the whole, but only one portion ; when, on the contrary, it nurses, it as a rule exhausts the whole supply of one breast and thus receives both the richer and the poorer quality. If the "one cow" upon whose milk the baby is fed happens to be diseased there is no escape for the infant, whereas when milk is taken from several cows there will be a less amount from any particular one, and the chances of freedom from taint are better. The milk now obtainable in cities is usually excellent in quality ; we refer, of course, to that sold by reputable dairies. In small grocery stores in crowded districts the milk is often allowed to stand for hours in a large can, the cover of which often remains off. As a consequence the milk absorbs odors and impurities from the air, is unfit for the stomach of the strongest adult, and a hundredfold more unfit for the delicate

stomach of an infant. It is always best, when possible, to procure the bottled milk. Women in the country are apt to congratulate themselves that the milk they obtain is above all suspicion ; so it may be, so it ought to be—so in numberless cases it is not. Who cannot recall a milk room in some farm house whose open window is directly above an open wooden trough through which flows the slop water from the kitchen, or which is near enough to a privy to receive and absorb foulness sufficient to cause many an infantile indigestion and diarrhoea ? To rid milk of all forms of impurity and bacteria it is necessary to boil, or rather to sterilize, it. Unfortunately this process is apt to render it more difficult of digestion, and some infants who do not thrive upon milk scientifically prepared will have to imbibe it in a raw state, but always modified by the admixture of other ingredients, as will be described below. The following directions have been given for preparing infants' food. As soon as the milk and cream come in the morning, mix as follows:

Cream.....	ounces 1½
Milk.....	ounce 1
Water.....	ounces 5
Milk sugar	drachms 3½

(A measuring glass, with the drachms and ounces plainly marked, may be obtained at a druggist's. Otherwise the measures may be thus estimated :

Cream.....	12 teaspoonfuls or 3 tablespoonfuls
Milk.....	8 " " 2 "
Water.. . .	10 tablespoonfuls
Milk sugar... .	3½ teaspoonfuls

but it is far better to obtain an accurate measuring glass.) This mixture is then heated. A sterilizing apparatus may be purchased by those who can afford it, and one with a perforated cover should be chosen. If this cannot be obtained an ordinary kitchen double steamer may be used. A bottle containing the milk mixture, which has been poured in through a funnel and its neck plugged with cotton, is placed in the upper portion, while the lower is filled with water, and the whole placed over a gas or alcohol flame or on the stove. After the water begins to boil

the bottle should remain over it for twenty minutes, then be removed and the mixture allowed to partially cool, after which half an ounce (four teaspoonfuls) of lime water is added, the cotton replaced, and the bottle kept on ice. Lime water may be bought at the druggist's, but a simple way to prepare it is to procure a piece of lime about the size of an English walnut, add two quarts of pure water, and let it stand for twenty-four hours.

The mixture in the bottle represents the amount of food to be given during the twenty-four hours, and the nursing bottle should be filled from it.

Should this process of sterilization demand more time than is at the mother's command, let her simply boil the mixture just before feeding.

The estimated cost of the food thus prepared is twelve cents a day. The amount of the mixture to be given at each feeding depends upon the age of the infant. In a table given by a reliable authority it is estimated that in the first week one ounce

is taken at each feeding, with an average amount of ten ounces in the twenty-four hours.

One to six weeks,	1½-2 oz.;	12-16 oz.	in 24 hrs.
Six to twelve weeks, 3-4	"	18-24	" " 24 "
Six months,	6	" 36	" " 24 "
Ten "	8	" 40	" " 24 "

This is the estimated amount for breast milk, but the rule holds good for this mixture, which has been made as nearly as possible to resemble human milk.

FEEDING BOTTLES for infants should be used in preference to a spoon or a cup. A bottle should be chosen which has a rubber nipple fastened directly to the top and *not* connected by a tube. It is almost impossible to keep the tube clean, and moreover the temptation is great to leave it near the child, who is allowed to suck or not as he feels inclined, even after the supply of milk is exhausted. This practice is extremely harmful. The bottle should be held to the infant's mouth, and suckled, as are the breasts, for fifteen or twenty minutes, then be at once removed, washed in boiling water, kept in water in

which is borax or else boracic acid, two teaspoonfuls to the pint. Just before filling for another feeding it should be rinsed with boiling water.

CONDENSED MILK is a favorite with many persons, because it is cheap and easily prepared. It is, however, scarcely nourishing enough to be depended upon for a steady diet, and although a child brought up on condensed milk may grow rapidly and be fat and apparently in good condition, it will probably not be as hardy and vigorous as desirable. However, if the choice be between poor cow's milk and condensed milk, preference should be given to the latter. Frequently, also, in travelling it may be used because of its convenience. It should be diluted with water in the proportion of one teaspoonful of milk to one ounce (eight teaspoonfuls) of water, and if the child is over a month old a teaspoonful of cream should be added.

PATENT FOODS are occasionally useful as an addition to a milk diet, but they all contain more or less starch, and as the in-

fant's digestive system is not fully able to cope with starch until it is ten or twelve months old, it can easily be seen that these foods would better be avoided. Yet, as in the case of condensed milk, some children seem to flourish upon their use ; these are, however, exceptional, and are probably of hardy constitution to start with. Milk can usually be depended upon for a perfect food until the child is weaned.

The WEANING of the infant is the next point to be considered, and for this again no definite law can be laid down. Between the ninth and the fourteenth month is the rule usually given, and a year is about the average. A variety of causes may necessitate weaning at an earlier date. The mother's milk may become scanty or of poor quality, as evidenced by deterioration of the child's health ; the mother may also become ill and unable to nurse. The appearance of menstruation is considered by many persons to be the signal for weaning ; and while it is true that this may be required, it should not be hastily done. The condition of both child and mother

should be carefully watched, and if neither seems to suffer, and the baby appears to digest its food properly and to be well nourished, the mother may continue to nurse it. Sometimes the menses appear once, and then disappear again for several months ; it would be a pity to deprive the infant of breast milk in such a case, wherefore let nothing be done in haste.

Pregnancy, however, as a usual thing, will necessitate weaning. Some women nurse their children for two or two and a half years, believing that they cannot become pregnant during lactation. This, however, is a great mistake, and often results in the suffering of three people—the mother, who has to bear the strain and exhaustion of nursing one child and carrying a second ; the first child, who is fed upon milk deficient in quality ; and the second child, who is carried by an exhausted mother when it has every right to expect an heritage of the utmost strength which can be given to it, and intra-uterine nourishment of the best quality. Weaning should, if possible, be a gradual process.

It should also not occur during teething nor during very hot or very cold weather. The eight incisor teeth usually appear at the twelfth month, which may be taken as an indication that the child is ready for something stronger than milk, which should, however, continue to be the chief feature of its diet for many months to come. At first a little bread and milk may be given instead of one of the regular breast nursings, or a little hominy, oatmeal, or mush in milk. Veal, mutton, and chicken broths may be added later, and beef tea which should contain bread or rice, because in itself it is not nourishing.

The following dietary has been given for a baby which has been weaned after it has the eight incisor teeth and before the eight molars appear :

“*First meal, 6 A.M.: A cup of milk with cream biscuit, or a slice of buttered bread.*

“*Second meal, 8 A.M.: Stale bread broken and soaked in a tumblerful of rich milk.*

“*Third meal, 12 M.: A slice of buttered*

bread with about half a pint of weak beef tea or mutton or chicken broth.

“*Fourth meal, 4 P.M.:* A tumblerful of milk with crackers or a slice of buttered bread.

“*Fifth meal, 8 P.M.:* A tumblerful of milk with bread or crackers.”

The child should not be wakened from sleep to be fed, and if it be hungry before the accustomed time it should be given its food. When the sixteen teeth have developed, the following is substituted :

“*First meal, 6 A.M.:* Bread or crackers with half a pint of milk

“*Second meal, 8 A.M.:* A tablespoonful of oatmeal, cracked wheat, or cornmeal mush with milk and a couple of slices of buttered bread.

“*Third meal, 12 M.:* Bread and butter, milk, and a soft-boiled egg.

“*Fourth meal, 4 P.M.:* A piece of rare roast beef to suck, mashed boiled potatoes moistened with dish gravy, bread and milk, and a small portion of bread jelly or farina.

“*Fifth meal, 8 P.M.:* Milk and bread

and crackers; or give the fourth meal at 3 P.M. and the fifth at 6 P.M., so that the child may be put to bed by 7 o'clock."

An infant should not be taken in the open air until the fourth or fifth week in summer, and about the sixth or eighth week in winter. It should be kept at home on very windy or damp days, and should always be sufficiently and warmly clad. At home it is well to let it wear short dresses, even in early infancy, in order that it may have a chance to kick its feet about and so develop the muscles of the legs. Creeping is an excellent exercise, but the floor must be free from draughts of cold air.

The BABY'S BATH should be given daily with the regularity of clockwork; nothing so promotes the necessary activity of the skin. The water should be warm in early infancy, and as summer approaches it can be gradually and almost imperceptibly cooled, until finally a cold bath can be taken and enjoyed. This cold bath will do more to prevent the taking of colds than

almost any other measure that can be devised, besides laying the foundation for a habit conducive to health and vigor. If, after a time, and in spite of rapid friction of the skin with hands and towel after the bath, it is seen that the child shivers, is pale and blue about the lips instead of being in a healthful glow, the cold bath must be stopped and the body be sponged with cold water, drying each portion before the next is washed. Should this not have the desired effect, warm water will have to be used. The brisk and thorough drying is an important part of the bath—a soft towel may first be used, and then the hands ; if skilfully managed the child will enjoy it, and even, when old enough, join in it with his own hands, which will add to the benefit to be derived by joining active to passive exercise.

Some one once made the remark that "many children were washed out of the world," and the phrase caught the popular fancy, especially of the indolent and not over-neat, and has been the justification of much neglect in this particular. The

daily bath is a necessity to perfect health ; and even were it not, the marked difference in attractiveness to sight and smell between children who are carefully treated in this respect and those who are not, would render it desirable. An unbathed child has a peculiarly musty odor, perceptible to all who approach it, with the exception perhaps of those who are always with it, whereas it is the privilege and right of babyhood to be as fresh as a rose and as sweet. "Bathe the baby every day !" exclaimed a father in one of the New York tenements—" why ! that would kill it !" And the same horrified parent fed the child daily upon beer instead of milk !

The question of disease in infancy is foreign to this work. The chief object has been to prepare the young wife for the occurrences and emergencies of pregnancy and labor, and to give a few simple directions for the care of her child during the early months of its life.

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